Supreme Court, U. S.
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IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,

Petitioner,

versus

AG PRO, INC.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

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AG PRO, INC.,
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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

Petitioner-Defendant prays that a Writ of Certiorari issue to review judgments of the United States Court of Appeals for the Fifth Circuit, said Court's opinions and judgments being dated June 25, 1973[1] and April 24, 1975, the Petition for Rehearing filed by Petitioner on May 6, 1975, having been denied by the Court of Appeals on June 9, 1975.

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1 The judgment rendered on June 25, 1973, was not final, as the Court deferred a final decision as to the validity of Respondent's patent pending a determination in the Trial Court of Petitioner's Motion for New Trial pursuant to Rule 60(b) F.R.C.P. based upon newly discovered evidence.

HISTORY OF APPEAL

Two prior opinions of the Court of Appeals for the Fifth Circuit should also be considered. Initially, the Fifth Circuit reversed a summary judgment granted by the District Court (Judge Ernest Guinn) 437 F.2d 99. Thereafter, a full trial was held in the District Court (Judge Ernest Guinn) who again adjudged the patent invalid, but the Fifth Circuit reversed the Trial Court, held the patent valid, and remanded the case for a determination of the issue of infringement. 474 F.2d 167. Before the mandate was issued, Petitioner-Defendant's Motion for New Trial pursuant to Federal Rule 60(b)(2), based upon newly discovered evidence was referred by the Court of Appeals to the District Court for determination. 481 F.2d 668. Judge John Wood entered an Order on February 7, 1974, granting Petitioner-Defendant's Petition for a New Trial based upon newly discovered evidence. For the third time the Court of Appeals for the Fifth Circuit reversed the District Court Order, denied Petitioner-Defendant a new trial based upon newly discovered evidence, held the patent valid, and remanded the case for a determination of the question of infringement. The most recent opinion of the U.S. Court of Appeals for the Fifth Circuit is not yet reported. All of the cited opinions of the Court of Appeals are copied as Appendices A, B, C, and D respectively, infra pp. 1a-29a.

JURISDICTION

The judgment of the Court of Appeals for the Fifth Circuit was made final by the decision rendered on April 24, 1975, and Petitioner's Petition for Rehearing

was finally denied by that Court on June 9, 1975. The Order denying said Petition for Rehearing is appended to this Petition in Appendix E infra p. 30a. The jurisdiction of this Court is invoked under 28 U.S.C. §1254(1), and Rule 19.1(b), Revised Rules of the Supreme Court of the United States.

QUESTIONS PRESENTED

(1) Whether the complained of judgments of the Court of Appeals that uphold a combination patent involving a water flush system to remove manure from the floor of a modern dairy barn decide a federal question involving the validity of a patent in conflict with applicable recent decisions of this Court.

(a) Each one of the elements comprising the combination patent in question was admitted by Respondent-Plaintiff as being old. Invention is claimed in the newness of the combination. The addition of a *tank* to hold water at the upper end of a dairy barn floor, which has a dump truck line drop-gate in the form of a piece of steel sheet hinged to the floor, with a catch at the top of the drop-gate so that when the catch is released the gate falls to the floor and the water rushes out, is the basis upon which invention is claimed because the water is introduced onto the floor by such means is claimed as non-obvious over the prior art.

(b) The combination patent not only covers the water tank and drop-gate, but includes also the standard features and arrangement of a modern dairy barn. The patent in question thus extends a monopoly to all

the old, widely used parts of a standard dairy barn, which renders the claim void because of over claim.

(2) Whether the Court of Appeals erred in setting aside Trial Court findings to the effect that this combination did not show invention, and did not meet the test of non-obviousness when viewed by the standard prescribed for Rule 52 F.R.C.P.

(3) Whether the Court of Appeals erred in setting aside Trial Court findings that Petitioner-Defendant was entitled to a new trial because of newly discovered evidence, the evidence introduced being sufficient to rebut any presumption of validity of the patent, when viewed against the standard prescribed by Rule 52 F.R.C.P.

THE LAW INVOLVED

The reason urged by Petitioner for reversing the Court below is that its holding decides a federal question in a way in conflict with applicable decisions of this Court. Rule 19(1)(b) Rules of the Supreme Court of the United States.

The law basically is Art. I §8 cl. 8, *The Constitution of the United States of America*, and 35 U.S.C. §§101, 102 and 103. It is more specifically to be found in the decisions of the Supreme Court of the United States in *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U.S. 545, 82 L.Ed.2d 1008; *Great Atlantic & Pacific Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 95 L.Ed. 162; *Graham v. John Deere Co.*, 383 U.S. 1, 15 L.Ed.2d 545; and *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 393 U.S. 57, 24 L.Ed.2d 258.

Each element of the patent is admittedly old, and Respondent-Plaintiff's only contention is that the placing of an ordinary steel tank, having a simple drop-gate hinged in the floor, and held in place by a simple latch, at the upper end of the dairy barn floor is novel, nonobvious and patentable. Petitioner-Defendant, relying on the authorities above cited, says this combination patent has nothing new in it, and that the use of a steel tank, with a simple drop-gate to release the water in the tank, is not novel, does not meet the test of non-obviousness, and does not constitute innovation which will "promote the progress of . . . useful art", and that the patent is void for claiming more than the applicant even claims to have invented, i.e., it claims the entire lay-out of a standard dairy barn.

A summary of the law involved, as found in the cited cases, is:

In *Lincoln Eng. Co. v. Stewart Warner Corp.*, the Court held the mere aggregation of a number of old parts or elements which, in the aggregation, perform or produce no new or different function or operation than that theretofore performed or produced by them, is not a patentable invention. And the improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination.

In the *A & P Tea Co.* case, the Court held invalid a combination patent, where all of the elements were old, nothing new or novel was added, and where the extension of the counter involved, which was said to

serve a new function, was not in itself patentable. It was said that combination patent claims should be scrutinized with a care proportioned to the difficulty and improbability of finding an invention in an assembly of old elements; and that patents cannot be sustained when their effect is to subtract from former resources freely available to skilled artisans. The opinion states that commercial success without invention will not make patentability. These holdings are applicable to the instant case, and govern it.

The *A & P Tea Co.* case is followed in the *Graham v. John Deere Co.* case, referring to the Constitutional standard, 383 U.S. at p. 6, giving emphasis to §103 at p. 14, and concluded it did not meet the non-obvious test, pp. 24-26.

The *Anderson's-Black Rock* case, follows the *A & P Tea Co.* case, and the *John Deere Co.* case, citing §103, and holds the combination patent there involved was invalid, because, although commercially successful, it did not create something new or novel, and did not meet the test of nonobviousness.

The *Great Atlantic & Pacific Tea Co.* case also holds that where the claim of the patent includes more than the patentee claims to have invented, there is an overclaim which renders the patent void.

The law as set forth in these authorities are applicable to, and control the instant case, because here we have a patent where all the elements are admittedly old, and where the claim of newness in the combination relates to an ordinary steel tank with a

simple drop-gate; and because there is an obvious overclaim in covering all parts of a standard dairy barn.

Rule 52, F.R.C.P., which states that Trial Court findings of fact are not to be set aside unless they are clearly erroneous, must also be considered in light of the two most recent opinions by the Court of Appeals. Rule 52, F.R.C.P., is applicable both to the findings of fact of the Trial Court following a trial on the merits of the validity of the patent held on the 13th day of December, 1971, as well as the findings of fact by the Trial Court on the Motion for New Trial held on February 7, 1974. In each case, the Court of Appeals reversed Trial Court findings that invalidated the patent and that had allowed Petitioner-Defendant a new trial for newly discovered evidence. In each case, the findings of fact of the Trial Court were amply supported by the evidence of record.

STATEMENT

This action involves the validity of Patent No. 3,223,-070 issued December 14, 1965, on the application of Donald Joseph Gribble and Henry E. Bennett, application having been filed November 5, 1963, and which patent related to the design and construction of a dairy barn, including a means for washing the dairy barn floor in order to wash off the cow manure.

Claims 1 and 3 set out the items covered by the patent, and which are involved in this action. The said Claims 1 and 3 read as follows:

"1. A dairy barn for cows and the like including a smooth, evenly contoured paved surface forming a floor providing a walking surface for cows in the barn, drain means for draining wash water from such floor opening to the top of the floor said smooth, evenly contoured surface which forms such floor sloping toward said drain means whereby wash water discharged on the floor may be collected and disposed of through said drain means, said barn further including multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also of smooth pavement, but which is disposed at an elevation above the paved surface forming the floor, said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn, said barn further including defined feeding areas having feeding troughs with means for discharging feed to the troughs, a cow-holding area, a milking area and a transfer area all bottomed with the walking surface forming said floor in the barn, and floor-washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor-washing means including means located over a region of said floor

which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor.

"3. The barn of claim 1, wherein said floor-washing means comprises a dam for damming and collecting water as a pool directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor toward said drain means." App. I, pp. 89, 90.[2]

The Trial Court's Findings of Fact set out the 13 separate items listed in this combination patent, App. I, 164-166, and the Findings state each element is old, App. I, 166. The Findings reviewed each element, as being old, and found that the tank referred to in claim 3 was, in Mr. Gribble's testimony, admitted to be simply a place that holds water than can be dumped out on the floor, to flow down the floor. App. I, 170. The Trial Court found all elements were old, App. I, p. 171, and that the use of the tank was a simple matter, and was lacking in novelty. App. I, 172. The Court's Findings were fully supported by the evidence, as the following statement shows. Petitioner says that the Court of Appeal's judgment reversing the District Court was contrary to and in violation of Rule 52, F.R.C.P.

Respondent, Plaintiff in the Trial Court, admits this is a combination patent. In Respondent's response to Defendant's Motion for a Summary Judgment, it was

2 The Appendix in No. 72-1108 will be referred to as "App. I", and the Appendix in No. 74-1712 will be referred to as "App. II".

said Plaintiff does not deny the patent is made up of a combination of old elements, App. I, p. 157; and further Plaintiff admits all of the elements are individually old. App. I, p. 158. Mr. Gribble, one of the patentees and president of the Respondent company, in his testimony admitted that each one of the elements in this patent is old in the dairy business, and existed long before 1963. App. I, pp. 218, 219. He further admitted that washing dairy barn floors is old "using hoses and those methods" and also by using pipes and valves and sprays and sprinklers. App. I, p. 223. The only thing to be new is the method of introducing water onto the barn floor, but he admitted water had been used for this purpose long before 1963, the year in which the application for the patent was filed. App. I, p. 224. The record also contains a statement made on behalf of Respondent that Plaintiff does not deny that the patent is made up of a combination of old elements App. I, p. 251, and again, Plaintiff admits that all the elements are individually old, App. I, p. 252, but claiming that the combination itself is new. App. I, p. 252.

Insofar as the novelty, and the nonobviousness of this combination is concerned, a look at claim 1 will show a design for a dairy barn floor consisting of elements all of which Respondent admits are old, and which Mr. Gribble testified he put in claim 1 only to "frame the water flush system" and to which he also has as the last thing described in claim 1 "and floor washing means for washing the floor providing the walking surface in the barn where said floor bottoms, said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into

said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool to disperse the water as a sheet of water over said floor." App. I, p. 89. Claims 2 and 3 merely describe how the water is to be collected and released onto the barn floor and claim 3, which is involved in this action, reads:

> "The barn of claim 1, wherein said floor washing means comprises a dam for damming and collecting water as a pool directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor towards said drain means." App. I, p. 90.

By this the patentee means a tank, steel tanks actually being used, with a gate or dam made of a piece of steel plate across one side of the tank, hinged into the floor, and secured at the top by a latch which can be knocked loose, permitting the steel plate comprising the dam or gate to drop — it actually being a drop-gate — and thus permitting the waters to flow out onto the barn floor. The tank and gate with the latch securing it are shown in Figure 10, App. I, p. 86.

It is undisputed that the use of tanks for purposes of holding water at a dairy is not new. App. I, p. 86. Mr. Gribble admitted that tanks such as described in his patent can be used as water troughs and in some places are used as water troughs, App. I, p. 226, and that such tanks have long been used in the dairy business, App. I, p. 227, except that he claims the paraphernalia to obtain the abrupt release of the contents of the tank had not been so used. App. I, p. 227.

That Respondent's use of such a tank, admittedly old in the dairy business, by hinging a steel sheet, forming one side, or a part of one side of the tank, into the floor, secured by a latch at the top which could be released permitting this steel gate to drop down to the floor, does not meet the test of novelty or of nonobviousness is apparent from the simplicity of this arrangement, and from the admissions of Mr. Gribble. He admitted that the said gate, which he sometimes referred to as a hinge water dam, was merely a steel sheet that was hinged in the floor with a latch at the top so that the latch can be knocked loose and the gate will fall down and the water will rush out. App. I, p. 227. He admitted this was a proper description of it and upon being asked, "You don't claim there is anything too imaginative about this dam or gate, do you, and the way it is hinged into the floor and the way this latch is up there at the top to hold it and open it?" To which he replied, "Well, Mr. Hulse, you should have been an engineer. You grasp these things in a second. It took us months to conceive and develop it. Yes, there was a good bit of thought and time and energy and trial and error type work that went on into the development of this system as it evolved." App. I, p. 228. But the tank and the drop-gate obviously are not new, are not novel, and could be made, as a simple matter, by a mechanic.

The Court of Appeals returned this case to the District Court for it to hear and make its decision on a question of newly discovered evidence. Appendix B. The Trial Court, at the conclusion of such hearing, entered an order, in which the Trial Court found, (1) that "flushing system" of this patent is not new or novel, and does not meet the test of nonobviousness;

that your Petitioner exercised due diligence, and that the evidence presented by him to the Court on the hearing of the Motion for a New Trial was discovered purely by chance in January, 1973, and the Trial Court granted the Motion for a New Trial, App. II, pp. 265, 266, which order of the Court, and Appendix II, were forwarded to the Court of Appeals, which reversed the Trial Court's order, Appendix A. Your Petitioner says the evidence supported the Trial Court's Order, and that the Court of Appeals' judgment reversing said order was contrary to and in violation of Rule 52, F.R.C.P.

REASONS WHY THE WRIT SHOULD BE GRANTED

The Writ should be granted because (1) a Federal question is involved and (2) the judgment of the Court of Appeals in this case is in conflict with, and is contrary to, the decisions of the Supreme Court of the United States in the cases hereinabove cited.

The question at hand is the validity, or not, of a combination patent, each element of which is admittedly old, and the aggregation of which perform no new or different function than theretofore performed by them. The Court of Appeals in reversing the Trial Court, and in holding said patent valid held contrary to the decisions of this Court in the cases above cited. This combination patent is of a kind that makes pertinent the reference in the *A & P Tea Co.* case, 340 U.S. 147 to the improbability of finding an invention in an assembly of old elements.

Claim 1 of the patent in question lists as its elements to the various parts of a customary dairy barn, such as

a hard surfaced (concrete) contoured floor, a drain for water used in washing the floor, individual stalls for each cow at an elevation above the floor, a cow holding area, a milking area, and so on. App. I, p. 89. Dairy barn floors have long been washed off with water, by one means or another. Respondent admits its patent is a "combination" patent, App. I, pp. 157, 158, 218, 219, and that all the elements in it are old. App. I, pp. 218, 219. A reading of claim 1 will show that Respondent now has a patent that covers the floor plan and design on which dairy barns have long been built. Respondent now asserts it has the right to exclude the public from the construction and use of such a dairy barn, by reason of this patent, contrary to what was said in that respect in *Lincoln Engineering*, 303 U.S. at 547. It subtracts from former resources freely available to skilled artisans, contrary to what was said in *A & P Tea Co.*, 340 U.S. at 152. The Petition for a Writ of Certiorari should be granted so that the judgment in this case may be made to conform to, instead of conflict with, the judgments of this Court in the cases referred to above.

LACK OF NOVELTY AND NONOBVIOUSNESS

There is nothing new in this combination patent. Respondent admits all elements of its patent are old. It claims something new about using a steel tank with a simple drop-gate in connection with washing the floor. But even this does not meet the test of novelty or the test of nonobviousness. The tank is an ordinary steel tank, similar to tanks long used on dairy farms for watering troughs, App. I, pp. 226, 227, and in itself is not new. It has on one side a simple drop-gate, made of a piece of sheet steel, hinged to the floor, and secured

at the top by an old-fashioned latch. There is nothing new or novel about a steel tank, or a simple drop-gate on one side of it. Drop-gates have long been in use for various purposes. App. I, pp. 228, 229. The use of such a tank to collect and release waters to wash the barn floor is not novel, and is not nonobvious. It is at least as simple a thing to do as was the improvement in a coupling member in *Lincoln Eng. Co.*, supra, or the improvement in the counter extension in *A & P Tea Co.*, supra, or the improvement in a shank plan, in *John Deere Co.*, supra, or in the radiant burner pavement layer in *Anderson's-Black Rock, Inc.*, supra. It is not "innovation . . . so as to promote the progress . . . useful art."

The conflict of the Court of Appeal's opinion in the instant case with the decisions of the Supreme Court of the United States is apparent in the *Anderson's-Black Rock* case. There a combination patent was involved, wherein a radiant-heat burner was placed on the front of a standard paving machine used for laying asphalt. The combination, i.e., the addition of the radiant-heat burner served a useful purpose and was a commercial success. No one seems to have done this before. Just as in the instant case, the District Court held it did not involve invention, and that the patent was invalid. The Court of Appeals reversed. The Supreme Court, however, held the combination was reasonably obvious to one with ordinary skill in the art, and added, further on, "Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available." This Petition should be granted so that the

judgment in this case may be made to conform to, and not conflict with, the judgments of this Court in the cases above cited.

OVERCLAIM

Claim 1 of the patent covers the entire layout of a dairy barn, while the contention of Respondent is only that the water tank and drop-gate, and its position on the dairy barn floor constitutes the invention. Most of claim 1 therefore is an overclaim, and this Petition for a Writ of Certiorari should be granted in order to make the judgment in this respect conform to, and not conflict with, the holding on this point in the *Great A & P Tea Co.* case.

CONFLICT WITH RULE 52, F.R.C.P.

This case was tried before one District Judge in September 1971, and on September 23, 1971, he made his Findings of Fact, App. I, pp. 164-172, which supported the judgment entered by the Court in favor of your Petitioners. These Findings were supported by evidence, as the statement hereinabove shows.

On the question of newly discovered evidence, a hearing was held February 6, 1974, before a *different* District Judge. He thereafter made his Findings of Fact, set out in the Court's order of February 7, 1974, in favor of your Petitioner, and granting your Petitioner a new trial. App. II, p. 265. These Findings likewise were supported by the evidence presented at the hearing on February 6, 1974.

The Court of Appeals, nevertheless, set aside the Findings of the Court dated September 23, 1971, and also the Findings contained in the order of February 7, 1974. In so doing, the Court of Appeals acted contrary

to the provisions of Rule 52, that Findings of Fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the Trial Court to judge of the credibility of the witnesses. This Petition should be granted, to correct two judgments below which, under these circumstances, do obvious violence to Rule 52.

This Petition for a Writ of Certiorari therefore should be granted so that this Honorable Court can correct these errors on the part of the Court below.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that this Petition for a Writ of Certiorari should be granted.

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Attorney for Petitioners

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the above and foregoing Petition has this date been served upon opposing counsel of record by placing same in the United States Mail, postage prepaid and properly addressed.

July ____, 1975.

_____

JAMES F. HULSE

APPENDIX A

AG PRO, INC., Plaintiff-Appellant,

versus

Bernard A. SAKRAIDA, Defendant-Appellee.

No. 74-1712.

United States Court of Appeals, Fifth Circuit.

April 24, 1975.

Appeal from the United States District Court for the Western District of Texas.

Before BROWN, Chief Judge, and GODBOLD and CLARK, Circuit Judges.

CLARK, Circuit Judge:

Today marks the third appellate appearance of this claim for infringement of a patented dairy barn flushing system. This suit for infringement of patent 3,223,070 was originally brought by Ag Pro, Inc., in 1968. A summary judgment on defendant Sakraida's motion provoked the first appeal. This court reversed and remanded for trial on the merits.[1] The second appellate go-around was an appeal from an adjudication of patent invalidity. We again reversed, but this time remanded specially for a trial court resolution of the defendant's appellate court motion for a new trial

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1 Ag Pro, Inc. v. Sakraida, 437 F.2d 99 (5th Cir. 1971). (*Ag Pro I*)

under Fed.R.Civ.P. 60(b)(2) based on newly discovered evidence of patent invalidity.[2] The district court granted the motion. Because in our view, the record on the motion establishes that defendant failed to exercise due diligence to discover the new evidence prior to entry of the former judgment, we once more reverse.

Our mandate in *Ag Pro II* directed the district court to enter a judgment holding the patent valid, hold a hearing on and determine Sakraida's Rule 60(b)(2) motion and, without more, certify the motion hearing record to this court. These functions have been duly accomplished, and the matter is back with the record of those supplemental proceedings. At the conclusion of its hearing the district court found that the new evidence adduced by Sakraida standing alone would produce a different result, that Sakraida had exercised due diligence and could not have discovered the evidence in time to move for a new trial under Fed.R.Civ.P. 59(b).

The patent in suit relates to a dairy barn flushing system. It involves the construction of slightly sloping barn floors which incorporate a means for storing and quickly releasing a volume of water on the floor. When the floor is flooded, it is cleansed of manure and debris without hand labor. In *Ag Pro II* we found that this system met the requirements of novelty, usefulness, and nonobviousness to qualify as a valid patent.

Sakraida's newly discovered evidence consists of alleged prior art which would purportedly invalidate

2 Ag Pro, Inc. v. Sakraida, 5 Cir., 474 F.2d 167, rehearing denied, 5 Cir., 481 F.2d 668 (1973). (*Ag Pro II*)

the patent. At the hearing below Sakraida testified that purely by chance he met Hubert Meyer the owner of Mission Dairy after the time he could have moved for a new trial under Rule 59(b) had expired. After learning of Sakraida's litigation, Meyer told Sakraida that Meyer's Mission Dairy contained a flushing system which was substantially identical to the patented system. Meyer also furnished Sakraida at that time with the names of other persons who could testify to the state of the art in water flush systems. Sakraida testified that this was the first time he had full knowledge of these facts. However, the evidence clearly establishes that prior to the original trial Sakraida was aware that Mission Dairy was using a flushing system that was a possible source of prior art. In addition, Sakraida had requested W. C. Fairbanks, an agricultural expert, to advise him on the state of the art. Fairbanks testified that he told Sakraida or his attorney sometime before October, 1969 of the existence of the Mission Dairy and its possible importance. It is without dispute that Sakraida considered the Mission Dairy information important enough to request an associate, Aubrey Wisdom, to visit the Mission Dairy to examine the flushing system. Wisdom went to the dairy and asked to see the system on Sakraida's behalf. The manager of Mission Dairy stated to Wisdom that he did not want to get involved and that he did not think it was right for him to show Wisdom the flushing system. It is further undisputed that at that same time Mission Dairy was open to the general public. Meyer testified that he had asked the manager not to answer questions about the equipment, but that access to visit the dairy was never denied anyone. After learning of Wisdom's rebuff, Sakraida abandoned

further inquir as to the Mission Dairy flushing system until his post-trial chance encounter with Meyer.

Sakraida contends that these facts demonstrate that he made a good faith effort to inquire into the facts surrounding Mission Dairy. He claims that the information given to him about this installation was based on rumor and hearsay, and that he could not pursue every possible lead to sources of prior art. The problem for Sakraida's contention is the high standard of proof required to substantiate Rule 60(b)(2) relief.

A motion for a new trial under Fed.R.Civ.P. 60(b)(2) is an extraordinary motion and the requirements of the rule must be strictly met. Strauss v. United States, 337 F.2d 853 (1964). The motion may not be granted unless (1) the evidence was discovered following the trial; (2) due diligence on the part of the movant to discover the new evidence is shown or may be inferred; (3) the evidence is not merely cumulative or impeaching; (4) the evidence is material; (5) the evidence is such that a new trial would probably produce a new result. Ladet v. United States, 297 F.2d 737, 739 (5th Cir. 1962).

This reasoning is apropos to patent litigation. *See* Valmont Industries, Inc. v. Enresco, Inc., 446 F.2d 1193 (10th Cir. 1971) in which the court held that a diligent search would have disclosed a prior German patent and, therefore, denied the Rule 60(b)(2) motion on the ground that due diligence was not exercised. *See also*, United States v. 41 Cases, 420 F.2d 1126 (5th Cir. 1970); Stiers v. Martin, 277 F.2d 737 (4th Cir. 1960); and Greenspahn v. Joseph Seagram & Sons, Inc., 186 F.2d 616 (2d Cir. 1951).

Sakraida's expert suggested Mission Dairy as a possible source of prior art. Sakraida accorded sufficient soundness to this advice to send an associate to examine the dairy. Under the facts of this case, Sakraida's duty did not end with the Mission Dairy manager's refusal to show the flushing system to Wisdom. No effort was made to contact Meyer, the owner; and judging from his present full cooperation, there is no reason to believe that he would have been reluctant to give Sakraida the information. Even if Meyer had refused, discovery procedures could have been initiated. For that matter, Wisdom or Sakraida could have visited the dairy along with other members of the public who were then being permitted to view the premises. The invention would have been generally open and obvious. In short, the exercise of a reasonable amount of diligence would have armed Sakraida with the same information he belatedly seeks to put before the court.

That spirit of finality which is implicit in all judgments, commands that courts be cautious in exercising the discretion vested in them to reopen proceedings for a new trial based on newly discovered evidence. While the sound discretion of a district judge in granting such a motion is not to be reversed except for clear abuse of discretion, Lloyd v. Gill, 406 F.2d 585 (5th Cir. 1969), that exercise is not free from review. In the case at bar, the evidence produced to show due diligence by Sakraida, taken in a light most favorable to the finding by the court below that the judgment following a completed trial should be set aside, is insufficient. The "new" facts were easily available prior to the trial, and the defendant had reliable information

that they were so available. His half-hearted effort to uncover them is legally not enough. Sakraida did not exercise due diligence in preparation of his prior art defense. The grant of a new trial accordingly must be reversed. Our prior determination of patent validity is reaffirmed and the case is remanded for further proceedings on the issue of infringement in accordance with our mandate in *Ag Pro II*. Neither singly nor *in solido* should our reversals be taken as intimating any view on the merits of the remaining issue or upon the admissibility or probity of this "new" information in the trial thereof.

Reversed and remanded.

APPENDIX B

AG PRO, INC., Plaintiff-Appellant,

v.

Bernard A. SAKRAIDA, Defendant-Appellee.
No. 72-1108.

United States Court of Appeals,
Fifth Circuit.

June 25, 1973

Rehearing Denied July 13, 1973.

ON PETITION FOR REHEARING

Before RIVES, WISDOM and RONEY, Circuit Judges.

PER CURIAM:

In his petition for rehearing, Defendant-Appellee Sakraida seeks a remand of the issue of patent validity based on newly discovered evidence. His request is the substantial equivalent of a motion under Rule 60(b)(2), F.R.Civ.P., requesting relief from a final judgment because of newly discovered evidence which by due diligence could not have been discovered in time to move for a new trial under Rule 59(b), F.R.Civ.P. See Bros. Incorporated v. W. E. Grace Manufacturing Co., 5th Cir. 1963, 320 F.2d 594, 607. In Ferrell v. Trailmobile, Inc., 5th Cir. 1955, 223 F.2d 697, 699, this Circuit adopted the following view of the District of Columbia Circuit, expressed in Smith v. Pollin, 1952, 90 U.S.App.D.C. 178, 194 F.2d 349, 350:

> "that, when an appellant in a civil case wishes to make a motion for a new trial on the ground of newly discovered evidence while his appeal is still pending, the proper procedure is for him to file his motion in the District Court. If that court indicates that it will grant the motion, the appellant should then make a motion in this court for a remand of the case in order that the District Court may grant the motion for new trial."

We think that procedure should be employed in this case, but with such modifications as are needed to fit the peculiar circumstances of the case. The movant, Sakraida, is the *appellee*. This Court, on February 5, 1973, reversed the judgment in his favor and found the patent valid. However, the mandate has not been issued, because Sakraida filed a timely petition for

rehearing, attacking that decision on several grounds.[1]

Thus the appeal is now pending on Sakraida's petition for rehearing.[2] Unless our present decision is changed on rehearing, the mandate of this Court, when ultimately issued, will permit such further proceedings as may be appropriate for a determination of the issue of infringement. As has been recognized by the district court, validity of the patent should be determined before ruling is made on infringement. Exercising our broad authority under 28 U.S.C. § 2106 to "require such further proceedings to be had as may be just under the circumstances," we would unravel the procedural tangle to "secure the just, speedy and inexpensive determination of * * *"[3] this action.

Accordingly, the case is remanded to the District Court with directions to enter a judgment holding the patent valid, subject, however, to that Court's consideration of a motion under Rule 60(b)(2), F.R.Civ.P., to be filed in the District Court by the defendant Sakraida on the issue of patent validity based on newly discovered evidence. The District Court will hear and determine said motion before proceeding on the issue of infringement. The District Court will then certify to this Court the entire record, including its opin-

1 The grounds, other than the claim of newly discovered evidence, we find to be without merit.

2 If the mandate had issued, a different procedure would govern the district court's consideration of a Rule 60(b)(2) motion. See Moore's Federal Practice (2nd ed.) § 60.30[2], p. 426; Barron & Holtzoff, Federal Practice & Procedure (Wright ed.), § 1332, p. 437.

3 See Rule 1, F.R.Civ.P.

ion and order and the testimony taken on the new trial issue. Thereafter, the parties will be given opportunity to file supplemental briefs and this Court will enter its decision determining the issue of patent validity based on newly discovered evidence, and directing the entry of a judgment either holding the patent to be invalid or holding the patent to be valid, and remanding the case for a determination of the issue of infringement and for such further proceedings as may be appropriate, consistent with this opinion.

So ordered.

APPENDIX C

AG PRO, INC., Plaintiff-Appellant,

v.

Bernard A. SAKRAIDA, Defendant-Appellee.

No. 72-1108.

United States Court of Appeals,
Fifth Circuit.
Feb. 5, 1973.

Before RIVES, WISDOM and RONEY, Circuit Judges.

RIVES, Circuit Judge:

Ag Pro, Inc., plaintiff-appellant (hereafter plaintiff), sued Sakraida, defendant-appellee (hereafter defen-

dant), for infringement of the D. J. Gribble, et al. (hereafter Gribble/Bennett) Patent 3,223,070, titled "Dairy Establishment." On the first hearing the district court granted defendant's motion for summary judgment. This Court reversed and remanded for a trial on the merits. Ag Pro v. Sakraida, 5 Cir., 1971, 437 F.2d 99.

On remand the trial was commenced and completed on the same day. The district court received suggested findings of fact and conclusions of law from both sides, adopted those of the defendant, and adjudged

> "* * * that said Patent No. 3,223,070 held by Plaintiff does not constitute invention, is not patentable, and is not a valid patent, it being a combination patent, all of the elements of which are old in the dairy business, long prior to 1963, and the combination of time as described in the said patent being neither new nor meeting the test of non-obviousness, Defendant is entitled to judgment."

(App. 175.)

Having held the patent invalid, the district court did not determine the issue of infringement. We reverse and remand.

The patent is limited to the construction and arrangement of the floor areas of the barn and the means for storing a volume of water on or immediately above the floor so that, when the water is suddenly released, it will clean all of the barn floor areas

without the use of hand labor. According to the letters patent, all barn floor areas can be thoroughly cleaned in a very few minutes, where previously it took hours of labor and use of larger quantities of water to achieve an inferior result. The patent contains three claims, but only Claims 1 and 3[1] are here involved. (App. 18.) In simplified form, those two claims call for a dairy barn having the following elements:

1) A paved, sloped barn floor with downhill drains;

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1 "Claim 1. A dairy barn for cows and the like including a smooth, evenly contoured paved surface forming a floor providing a walking surface for cows in the barn, drain means for draining wash water from such floor opening to the top of the floor, said smooth, evenly contoured surface which forms such floor sloping toward said drain means whereby wash water discharged on the floor may be collected and disposed of through said drain means, said barn further including multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also of smooth pavement, but which is disposed at an elevation above the paved surface forming the floor, said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn, said barn further including defined feeding areas having feeding troughs with means for discharging feed to the troughs, a cow-holding area, a milking area and a transfer area all bottomed with the walking surface forming said floor in the barn; and floor-washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor-washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor."

"Claim 3. The barn of claim 1, wherein said floor-washing means comprises a dam for damming and collecting water as a pool directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor toward said drain means." (App. 89, 90.)

2) individual cow stalls elevated above floor level but designed to facilitate accumulation of cow excrement on the dairy floor;

3) paved feeding and milking areas integrated into the flush system;

4) a dam which collects water in a pool uphill from or directly on the dairy floor and abruptly openable to send a sheet of water cascading through the dairy sweeping the manure to the downhill drains.

Admittedly, all the elements are old. However, prior to this patent, the concept of a controlled sheet of water to do the scouring and washing of the floor had not been used in barn construction. The prior art involved the use of spot delivery of water by high pressure hoses. None of the prior art documents shows a floor washing means constructed to collect a pool of water uphill from or on the floor so that, when the water is abruptly released, it will flow as a sheet to wash almost instantaneously all barn floor areas and discharge cow offal into drains. That is the crucial element of this patent.

The plaintiff's patent is a modest commercial success. Over 70 dairies spanning the United States now utilize the patented manure flush system. Each installation is licensed under the patent pursuant to a one-payment, standard fee of $1500.00 plus $1.00 per cow. (App. 190, 191.)

A valid patent must be, not only novel and useful, but also nonobvious. 35 U.S.C. § 103. While the ul-

timate question of patent validity is one of law, a determination of nonobviousness rests on several basic factual inquiries. Those inquiries, prompted by § 103, are three in number.

> "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

Graham v. John Deere Co., 1966, 383 U.S. 1, 17, 86 S.Ct. 684, 694, 15 L.Ed.2d 545.

The crucial issue of obviousness can only be resolved through reference to the precise facts presented, not through logical or intuitive analysis distorted by the invention's simplicity and retrospective self-evidence.

In the instant case, plaintiff presented cogent and convincing evidence that the gap between its patented system and the prior art was wide and ultimately bridged only by the inventive powers of Gribble and Bennett. In contrast, defendant did not supplement the prior art references initially available to the Patent Office, nor did he cite examples of simultaneous solutions. Instead, he merely relied upon three conclusory affidavits and the testimony of one witness who admitted that no similar device existed in the prior art. (App. 246).

A short sketch of the evidence available to the trial court will highlight the lopsided factual foundation on

which the determination of the patent's validity must rest.

(1) *Evidence Presented by Defendant*

While considering the Gribble/Bennett patent application in 1963, the Patent Office examiner had before him nine prior art patents and two prior art publications. Defendant introduced into evidence the two publications and only five of the patents. (Def. Exhibits 2, 3, 4, 5, 6, 7 and 8.) No other specific example of the prior art was revealed by defendant at trial.

Instead, defendant's meager presentation consisted of three cursory affidavits attached to the original motion for summary judgment and the solitary testimony of Mr. Robert Price at trial.

The three affiants, Sakraida, W. C. Fairbanks and Archie Sharp, each swore to have knowledge of prior flush systems analogous to the Ag Pro patent, and each volunteered the subjective judgment that appellant's invention was obvious. (App. 91-102.) These simplistic statements, rendered without the aid of cross-examination and devoid of specific illustrations of similar inventions, add little to an understanding of the prior art.

Defendant's single trial witness, Mr. Robert Price, who runs a dairy in El Paso, Texas, testified that certain elements of appellant's patented invention were known to the prior art, specifically, paved, sloped floors with downhill drains and raised stalls. (App. 239-249). Yet, Mr. Price admitted that the patented dam-release flooding technique was novel even to him.

(2) *Evidence Presented by Plaintiff*

In contrast to defendant's paltry factual presentation, plaintiff developed a full and lucid view of both the prior art and its own inventive "breakthrough." Plaintiff skillfully juxtaposed the prevalent pre-1963 cleaning techniques with its own flush system and painted a convincing picture of a nonobvious advance.

Plaintiff supplemented its vivid documentary evidence, including picture brochures, magazine articles and a short film strip, with the testimony of George Huber, a retired agricultural engineer from the University of Oregon. Mr. Huber, properly qualified as an expert witness, provided the only technical analysis of the prior art. Mr. Huber carefully examined each of the five patents and two articles cited by defendant as representative of the prior art.[2]

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2 Mr. Huber's scrutinization of defendant's prior art references appears in the Appendix at pages 268 and 272 and includes the following findings:

(1) The magazine article proffered by Sakraida, "Cattle Shelters and Equipment for South Carolina," Extension Agricultural Engineering Handbook No. 2 (82), merely describes a dairy barn floor plan and does not discuss cleaning procedures.

(2) Defendant's second publication, "The Way Cow's Will Be Milked on Your Farm Tomorrow" by Babson Brothers Dairy Research Service, describes loose housing which requires either scraping or pressure hosing of manure.

(3) The Luks Patent, No. 1,968,564 (1934) deals with a movable milking apparatus with gutters and drains, but no dam.

(4) The Kreutzer Patent, No. 1,981,417 is a combination animal housing-feeding structure, but does not embrace cleaning procedures at all.

(5) The Kreutzer Patent, No. 1,981,418, also, does not involve barn cleaning.

(6) The McCornack Patent, No. 2,081,947 is a cleaning system based on gutters and a system of water pipes, not a dam-release system.

(7) The Bogert Patent, No. 2,233,766 utilizes a sprinkler system, again distinct from plaintiff's patent.

He came to the same conclusion previously reached by the Patent Office — none of defendant's prior art references anticipated plaintiff's invention.

The Supreme Court held in Graham v. John Deere, *supra*, 383 U.S. at 19, 86 S.Ct. 684, that 35 U.S.C. § 103, passed in 1952, merely codified pre-existing requirements and did not relax the standard for patentability. As early as 1851, in Hotchkiss v. Greenwood, 52 U.S. (11 How.) 248, 13 L.Ed. 683, the Supreme Court posited the condition that a patentable invention must evidence more ingenuity and skill than that possessed by an ordinary mechanic acquainted with the business. That basic standard remains intact. Section 103 simply substitutes the term "nonobvious" for prior terms such as "invention" and "ingenuity" in order to emphasize the objective nature of the test and avoid the misunderstanding stemming from the controversial phrase "flash of creative genius" coined in Cuno Corp. v. Automatic Devices Corp., 1941, 314 U.S. 84, 62 S.Ct. 37, 86 L.Ed. 58.

Thus, novelty, utility and wide commercial success are not enough to assure patentability. A combination is unpatentable, notwithstanding novelty and usefulness, if it is, in view of the prior art, an obvious expedient of a skilled worker in the art. See Deller's Walker on Patents, 2nd ed., § 71, p. 333. Hence, where the defendant in a combination patent infringement suit offers references to the prior art to negate patentability, those references may not be combined to anticipate the patented claim unless they suggest to one with ordinary skill in the art doing what the applicant has claimed.

None of the prior art references proffered by defendant in this case, independently or combined, suggest that plaintiff's novel flooding mechanism was an obvious advancement in the art. To the contrary, the record reveals that those skilled in the art reacted to the advancement with surprise (see App. 208; 266). Different evidence referring to truly analogous prior patents or simultaneous solutions might have compelled a finding of obviousness, but this record is devoid of such evidence.

Certainly, the gravitational principle that water runs downhill is both old and obvious; yet, plaintiff does not seek to patent gravity. Instead, plaintiff strives to acquire official recognition of its rights in a precise combination of mechanical components capable of harnessing a sudden rush of water to effectively clean a modern dairy barn. The prior art did not mother this audacious device; Gribble and Bennett's inventive faculties did.

The clearly erroneous standard of review is applicable to findings of fact in a patent case. See F.R.Civ.P. Rule 52; Railex Corp. v. Speed Check Co., 5 Cir. 1972, 457 F.2d 1040; American Seating Co. v. Southeastern Metals Co., 5 Cir. 1969, 412 F.2d 756, 758. Although this Court has viewed with disfavor a trial judge's uncritically accepting proposed findings, this unfortunate practice does not erase the clearly erroneous rule. Louis Dreyfus & CIE. v. Panama Canal Co., 5 Cir. 1962, 298 F.2d 733.

Anticipation of the contested patent by prior art structures is largely a question of fact, but the critical issue of nonobviousness requires a mixed factual-

legal determination. Laitram Corp. v. Deepsouth Packing Co., 5 Cir. 1971, 443 F.2d 928, 932; Anderson's Black Rock, Inc. v. Pavement Salvage Co., 1969, 396 U.S. 57, 90 S.Ct. 305, 24 L.Ed.2d 258.

In the instant case, the district judge did not specifically find that the patent was anticipated by prior art structures. (See App. 164-177.) He did conclude that plaintiff's invention was obvious, and, as a mixed factual-legal determination, that conclusion must be given strong credence by this Court. But the facts presented at trial clearly do not support a finding of obviousness under the three-pronged *Graham* test, and, even under the strictures of a limited standard of review, this Court must reverse.

The Presumption of Patent Validity

A patent is presumed valid and the burden of establishing its invalidity rests on the party asserting it. See 35 U.S.C. § 282. Although the presumption of patent validity is rebuttable, Radio Corp. of America v. Radio Engineering Labs, 1934, 293 U.S. 1, 55 S.Ct. 928, 79 L.Ed. 163, the quantum of proof needed to rebut that presumption is greater than a mere preponderance of the evidence. Hobbs v. United States, 5 Cir. 1971, 451 F.2d 849, 856; Railex Corp. v. Speed Check, *supra*, 457 F.2d at 1040.

If it can be demonstrated that the Patent Office was not shown or did not consider additional pertinent prior art, the presumption of validity is weakened. B. F. Goodrich Co. v. Rubber Latex Products, Inc., 6 Cir. 1968, 400 F.2d 401; Stamicarbon, N.V. v. Escambia

Chemical Corp., 5 Cir. 1970, 430 F.2d 920. But presentation by defendant of exactly the same prior art references relied on by the Patent Office reinforces, rather than destroys, the presumption of validity. Stamicarbon N.V. v. Escambia Chemical Corp., *supra* p. 926; Johns-Manville Corp. v. Cement Asbestos Products Co., 5 Cir. 1970, 428 F.2d 1381.

Accordingly, this Court has seen fit to override the statutory presumption of patent validity where previously undisclosed references to analogous prior art structures are revealed at trial, Ramirez v. Perez, 5 Cir. 1972, 457 F.2d 267; see also Graham v. John Deere, *supra*, 383 U.S. at 26, 86 S.Ct. 684, but the circumstances in this case compel a contrary result.

At trial, defendant cited only five prior art patents, all of which were previously considered by the Patent Office. Defendant introduced a single witness. That witness' ambiguous testimony, balanced against the impressive array of evidence proffered by plaintiff, failed to rebut the presumption of patent validity. Yet, the district court did not once mention the patent's presumptive validity in its findings of fact and conclusions of law.

The Requirement of Nonobviousness

The requirements for patentability are primarily statutory. The purpose of the patent laws is "to promote the Progress of * * * useful Arts, by securing for limited Times to * * * Inventors the exclusive Right to their * * * Discoveries." U.S.Const., Art. I, § 8, cl. 8. That purpose is implemented by 35 U.S.C. § 101, defin-

ing a patentable invention as one that is both new and useful, and § 103 further requiring that,

> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in § 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

The concept of nonobviousness is elusive. The patentability of any given invention can only be determined by applying general principles gleaned from relevant cases to the specific facts involved, with a constant eye on the constitutional purpose of the patent laws.

In the first Supreme Court case interpreting section 103, Graham v. John Deere, *supra*, the Court held two separate patents unpatentable. The first, an asserted advancement in plow shank design, was found to be substantially identical to a prior patent, not considered by the Patent Office, whose parts were simply inverted. The second structure, a plastic finger sprayer with "hold-down" cap, lacked the requisite nonobviousness, because the advancement rested upon an "exceedingly small and quite non-technical mechanical difference[s] in a device which was old in the art." *Graham, supra*, 383 U.S. at 36, 86 S.Ct. at 703. Although the Court in *Graham* clearly rejected the Fifth Circuit rationale that an invention is patentable

when it produces an "old result in a cheaper and otherwise more advantageous way," what precise test, if any, that Court substituted is unclear.

Several post-*Graham* cases have emphasized the necessity of a technical improvement and apparently permitted the ultimate issue of patentability to turn on a technical-nontechnical distinction. In United States v. Adams, 1965, 383 U.S. 39, 86 S.Ct. 708, 15 L.Ed.2d 572, a new wet cell battery was held patentable, because it constituted a combination which was a specific solution to *technical* problems. *See* Sterner Lighting, Inc. v. Allied Electrical Supply, Inc., 5 Cir. 1970, 431 F.2d 539, 542. In *Sterner* a novel lamp-post base design was found patentable under the following test:

> "Whether the patentee has solved *non-trivial technical problems* by purposefully manipulating variables so as to elicit a synergistic result from his materials." [Emphasis supplied.]

Other cases, rather than focusing on the technical complexity of the improvement, have stressed the reaction of experts in the art. If noted experts express initial disbelief, that fact is probative of nonobviousness. See United States v. Adams, *supra* p. 52, 86 S.Ct. 708; but see Railex Corp. v. Speed Check Co., *supra*, 457 F.2d at 1045, where an unexpected result was treated as relevant to novelty, not nonobviousness. The concepts are often intertwined.

All of the cases agree that considerations of commercial success, long felt but unresolved needs, and

failure of other structures to achieve the same results are important secondary factors but not directly determinative of nonobviousness. *Graham*, *supra*, 383 U.S. at 17, 86 S.Ct. 684.

Although the plaintiff's flush system does not embrace a complicated technical improvement, it does achieve a synergistic result through a novel combination. The Gribble/Bennett invention involves far more than a mere inversion of parts and the problem solved was not trivial. The little expert testimony presented at trial supports the conclusion that the system was initially viewed with disbelief. The inventors did not take a common structure and make a minor change like the tortilla maker in Ramirez v. Perez, *supra*, who merely removed the studs from a waffle iron. Instead, they constructed a totally new structure (although admittedly out of old parts) and achieved a dramatic result. If a mechanic reasonably skilled in the applicable art could have anticipated this result, the record does not show it.

On the basis of the record before us, we reverse the judgment of the district court and find that the patent is valid. The case is remanded for a determination of the issue of infringement, and for such further proceedings as may be appropriate, consistent with this opinion.

Reversed and remanded.

APPENDIX D

AG PRO, INC., Plaintiff-Appellant,

versus

Bernard A. SAKRAIDA, Defendant-Appellee.

No. 29708.

United States Court of Appeals, Fifth Circuit.

Feb. 1, 1971.

Before RIVES and SIMPSON, Circuit Judges, and NICHOLS,* Judge of the Court of Claims.

SIMPSON, Circuit Judge:

The issue before us in this patent infringement case is the propriety of the entry of summary judgment by the district court in favor of the defendant-appellee, Bernard A. Sakraida. This summary judgment meets the fate of many others before it. We reverse and remand for further proceedings.

On October 8, 1968, the suit was filed claiming infringement of United States Letters Patent No. 3,223,070, titled "Dairy Establishment". The plaintiff, Ag Pro, Inc. is the owner of the patent as assignee of the inventors, Donald Joseph Gribble and Henry E. Bennett. The corporation was formed by Gribble and

* Honorable Philip Nichols, Jr., sitting by designation.

Bennett for the purpose of commercially exploiting the invention disclosed in the patent.

The patent deals with the ancient and puzzling problem of disposing conveniently and profitably of the excrement (referred to by the parties and herein as offal) of domesticated food-producing animals, and assertedly represents a solution of the problem as related to the dairy cow industry. Through utilization of a dairy barn with sloped, paved floors and large tanks of dammed upstream water, the invention deals with a flush-type system for removal of the offal from dairy barns. The offal was to be carried through drains into tanks from which it could be conducted to sprinkler systems on adjoining fields for use as fertilizer.

The defendant-appellee is a general contractor who specializes in the construction of agricultural buildings. Previously he had worked as a construction supervisor for the plaintiff on a dairy barn installation which was built in accordance with the patent in suit. The appellee subsequently contracted with other persons to build another dairy barn. The latter is alleged to be the infringing installation.

After pre-trial discovery, the defendant moved for summary judgment. In the motion for summary judgment the defendant raised no question as to the infringement of the patent, but rather directed his attack at the validity of the patent held by the appellant. On February 19, 1970, the trial court granted the defendant's motion, holding that the appellant's patent was a combination patent composed of a number of parts

or elements well known in the dairy business long prior to the date of filing the original application for the patent; that the combination patent did not result in anything new and patentable; that the case was controlled by the holding of the Supreme Court of the United States in Anderson's Black-Rock, Inc. v. Pavement Salvage Company, 1969, 396 U.S. 57, 90 S.Ct. 305, 24 L.Ed.2d 258; and concluding as a matter of law that there was no issue as to any material fact.

Rule 56(c) of the Federal Rules of Civil Procedure provides in pertinent part that a party is entitled to summary judgment:

> "* * * if the pleadings, depositions, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law."

The Rule was not complied with in this instance. The heart of the defense was that the plaintiff's "dairy establishment" combines a number of previously known and widely used components in a manner which is obvious and not inventive. This defense assumes the burden of meeting and overcoming the presumption of validity inhering to a patent issued by the patent office. Title 35 U.S.C., Section 282; Metal Arts Company v. Fuller Company, 5 Cir. 1968, 389 F.2d 319, 321. In support of the motion for summary judgment the defendants attached the oral deposition of Gribble, in which he described the elements of the patent. Also attached to the defendant's motion were the affidavits of the defendant Sakraida, W. C. Fairbanks,

and Archie Sharp. In these affidavits the affiants simply swore that dairy barns like that patented by the plaintiff have been used in the dairy industry prior to the date of the application for plaintiff's patent. The affiants also state the conclusion that there is nothing novel or patentable in plaintiff's patent. Ag Pro, Inc. countered the defendant's motion with affidavits of Gribble and M. G. Huber. These affidavits do not deny that the patent is a combination of a number of previously known elements, but they do contend that the combination patent is a product of invention. They further swear that to their knowledge no dairy barns like that patented were in existence prior to the application for patent. In essence the plaintiff's affidavits contradict the defendant's supporting evidence regarding the prior art and obvious nature of the thing patented. It should be emphasized that the district court did not have any patents or publications regarding the prior art before it at the time summary judgment was granted. The only information before the court regarding the prior art was the conclusory statements contained in the affidavits and correspondence between the Patent Office and Gribble and Bennett's attorney which was written during the time the patent application was pending.

Summary judgment is the rare exception, see Ronel Corporation v. Anchor Lock of Florida, Inc., 5 Cir. 1963, 325 F.2d 889, and not the rule in patent infringement cases. Inglett & Company v. Everglades Fertilizer Company, 5 Cir. 1958, 255 F.2d 342; Hycon Manufacturing Company v. H. Koch & Sons, 9 Cir. 1955, 219 F.2d 353; Gray Tool Company v. Humble Oil & Refining Company, 5 Cir. 1951, 186 F.2d 365; Adams v. Columbus Manufacturing Company (M.D. Ga. 1958),

169 F.Supp. 346. In the recent case of Stamicarbon N. V. v. Escambia Chemical Corp., 5 Cir. 1970, 430 F.2d 920, 924, we again stated: "* * * obviousness is a question of law *determined against the factual background of the state of the prior art and the claimed improvement on it.*" (Emphasis added).

In the landmark decision of Graham v. John Deere Company, 1965, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545, the Court noted the importance of a meticulous review of the factual aspects of the case in arriving at a determination of the question of obviousness vel non:

> "While the ultimate question of patent validity is one of law, Great A. & P. Tea Co. v. Supermarket Equipment Corp., supra, 340 U.S. at 155, 71 S.Ct. at 131 [95 L.Ed. 162], the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several *basic factual inquiries*. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. See Note, Sub-

tests of 'Nonobviousness': A Nontechnical Approach to Patent Validity, 112 U.Pa.L. Rev. 1169 (1964).

This is not to say, however, that there will not be difficulties in applying the non-obviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development. We believe that strict *observance of the requirements laid down here will result in that uniformity and definiteness which Congress called for in the 1952 Act.*" (Emphasis added)

383 U.S. 17-18, 86 S.Ct. 694, 15 L.Ed. 2d 556.

These pronouncements highlight the need for exceptionally diligent attention by the district court to the facts in making a determination of patentability, and emphasize the limited applicability of F.R.Civ.P. 56 to patent cases. The documents filed in the instant case in support of and opposed to the motion for summary judgment make it clear that paramount issues of fact concerning the state of the prior art are unresolved. That being the case, summary judgment was not appropriate.

On remand, and after a full airing and finding of the facts the district court may find as a legal conclusion that *Anderson's Black-Rock, Inc.*, supra, is still

applicable, or it may be that the facts prove that obviousness was not such that the plaintiff should be denied the benefit of his patent. We are careful to express no opinion whatever as to these matters. We simply reiterate our holding that the legal determination of patentability cannot be made here until the facts are resolved, and it is apparent that the facts were not resolved at the time summary judgment was entered. This was not the "rare patent case which can be * * * summarily truncated." Adams v. Columbus Mfg. Co., D.C.M.D.Ga., 169 F.Supp. 346, 348.

Reversed and remanded for further proceedings.

APPENDIX E

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

No. 74-1712

AG PRO, INC.,
Plaintiff-Appellant,

versus

BERNARD A. SAKRAIDA,
Defendant-Appellee.

Appeal from the United States District Court for the Western District of Texas

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ON PETITION FOR REHEARING

(June 9, 1975)

Before BROWN, Chief Judge and GODBOLD and CLARK, Circuit Judges.

PER CURIAM:

IT IS ORDERED that the petition for rehearing filed in the above entitled and numbered cause be and the same is hereby DENIED.

Supreme Court, U. S.
FILED
NOV 25 1975
MICHAEL RODAK, JR., CLERK

APPENDIX

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,
Petitioner,

versus

AG PRO, INC.,
Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

PETITION FOR CERTIORARI FILED JULY 17, 1975
CERTIORARI GRANTED OCTOBER 14, 1975

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DOCKET ENTRIES

In the United States District Court for the Western District of Texas, El Paso Division

AG PRO, INC.

versus CA-68-118 EP

BERNARD A. SAKRAIDA

Date	Proceedings
10- 7-68	1) Plaintiff's complaint filed.
10- 9-68	Summons issued.
10-28-68	2) Filed Defendant's Original Answer, in trip.
10-18-68	3) Filed ret. summons to BERNARD A. SAKRAIDA, ex. 10-8-68 in El Paso, Tex.
12-10-68	4) Filed Motion for Production of Document, in trip.
12-10-68	5) Filed Brief in Support of Defendant's Motion for an Order for Production of Document, in trip.
12-11-68	6) Filed Order for Production of Document, in dup. (Copies furnished counsel)
5- 1-69	7) Filed Defendant's Motion to Produce, in dup.
5- 6-69	8) Filed Motion for Production of Documents, in dup. (Plaintiff)
5-12-69	9) Filed Defendant's Supplemental Motion to Produce, in dup.
5- 9-69	10) Filed Plaintiff's Objections to Defendant's Motion to Produce, in dup.
5- 9-69	11) Filed Plaintiff's Brief in Support of Objections to Defendant's Motion to Produce. in dup.

5-16-69 12) Filed Deposition of Bernard A. Sakraida (Chg. to Pltfs.)

9-26-69 13) Filed Notice of Taking Deposition of Albert W. Gandt, in dup.

9-26-69 14) Filed Motion of Deft. for Protective Order Re Oral Deposition of Albert W. Gandt, in dup.

9-26-69 15) Filed Brief in Support of Deft's. Motion Re Oral Deposition of Albert W. Gandt, in dup.

11- 5-69 16) Filed Defendant's Motion for Summary Judgment, in dup.

11- 5-69 17) Filed Brief in Support of Defendant's Motion for Summary Judgment, in dup.

11- 5-69 18) Filed Transcript of Deposition upon Written Interrogatories of Albert W. Gandt, and Original Notice of Taking Deposition upon Written Interrogatories

11-20-69 19) Filed Plaintiff's Memorandum in Opposition to Deft's. Motion for Summary Judgment, in dup.

12-22-69 20) Filed Deft's. Supple. Brief in Support of His Motion for Summary Judgment.

12-22-69 Hearing on Defendant's Motion for Summary Judgment. After hearing arguments of counsel, the Court granted Plaintiff 2 weeks to file Amended Petition. No ruling on Motion.

1-19-70 21) Filed Motion for Permission to File an Amended Complaint, in dup.

1-19-70 22) Filed Supplemental Memorandum in Opposition to Deft's. Motion for Summary Judgment, in dup.

2-11-70 Additional Hearing in open Court on Defendant's Motion for Summary Judgment. After hearing additional arguments of counsel, the Court took the Motion under advisement.

2-19-70 23) Filed Judgment, in dup (Deft's. Motion for Summary Judgment Granted)

3-19-70 24) Filed Notice of Appeal

3-25-70 25) Filed Cost Bond on Appeal

4-23-70 26) Filed Designation of Contents of Record on Appeal (in letter form)

Plaintiff's Exhibit No. 1 — Book of Color Photographs.

3-26-71 27) Filed Opinion of the U.S. Court of Appeals, 5th Circuit

3-26-71 28) Filed CC Judgment in lieu of mandate of the U.S. Court of Appeals, decision of District Court reversed and remanded to U.S. District Court

3-26-71 29) Filed Copy of Bill of Costs, U.S. Court of Appeals for 5th Circuit

8- 4-71 30) Filed Deft's. Request for Admission of Genuineness of Documents, in dup.

8-19-71 31) Filed Plaintiff's Request for Admission, in dup.

8-19-71 32) Filed Response to Defendant's Request for Admission of Genuineness of Documents, in dup.

8-26-71 33) Filed Motion requesting trial by jury by Plaintiff, in dup.

8-26-71 34) Filed Response to Plaintiff's Request for Admission served August 20, 1971, in dup.

8-26-71 35) Filed Brief in Support of Jury Request, in dup.

9- 7-71 36) Filed Substance of Testimony by Pltfs expert M. G. Huber, in dup.

9- 8-71 37) Filed Memorandum of Testimony to be Offered by Robt. B. Price, Jr. as an Expert Witness on Behalf of Deft., in dup.

8-27-71 Motion for Jury Trial Denied.

9- 9-71 38) Filed Findings of Fact, in dup. (Plaintiff's)

9-13-71 Non-Jury Trial. Parties stipulate that all evidence admitted at Hearing on Motion for Summary Judgment may be considered as admitted in evidence on this trial. Counsel for Plaintiff made opening statement. Testimony presented for both sides and both sides rest and close. Both sides allowed to submit briefs and/or supplemental proposed Findings & Conclusions. Court will rule in 2 weeks.

9-23-71 39) Filed Findings of Fact.

9-23-71 40) Filed Final Judgment in favor of Defendant, Bernard A. Sakraida.

10-19-71 40(a) Filed Notice of Appeal

11-26-71 41) Filed Order extending time for filing Transcript of Proceedings to and including 1-17-72, in dup. (Cert. Copy mailed to U.S. Court of Appeals, 5th Circuit, New Orleans, La., 11-26-71)

12-29-71 42) Filed Transcript of Proceedings.

7-25-73 43) Filed CC of Opinion of the U.S. Court of Appeals, Fifth Circuit remanding case to the U.S. Dist. Court, with directions to enter judgment holding patent valid, subject to

Court's consideration of a motion under Rule 60(b)(2), F.R.Civ.P., to be filed in Dist. Court by Deft. Sakraida.

7-25-73 44) Filed CC of Judgment of U.S. Court of Appeals, 5th Circuit, issued in lieuof Mandate, remanding cause with directions in accordance with the opinion of June 25, 1973.

7-25-73 45) Filed Bill of Costs, U.S. Court of Appeals, 5th Circuit.

7-27-73 46) Filed Deft's. Motion for A New Trial, in dup.

8- 9-73 47) Filed Pltff's. Notice of Taking Deposition of W. C. Fairbank, in dup.

8-23-73 48) Filed Pltff's. Motion to Produce, in dup.

9-14-73 49) Filed Deft's. Response to Pltff's. Request for Production, Inspection and Copying of Documents, in dup.

9-14-73 50) Filed Deft's. Brief in Support of Its Response to Pltff's. in dup. Request for Production, Inspection and Copying of Documents,

9-17-73 51) Filed Deposition of W. C. Fairbank

9-26-73 52) Filed Pltff's. Memorandum in Response to Deft's. Objections to Production of Documents, in dup.

12- 4-73 53) Filed Request for Production of Documents Pursuant to Rule 34 F.R.C.P., in dup.

12- 7-73 54) Filed Order Overruling Plaintiff's Request for the Production of Documents, Served Under Date of Sept. 21, 1973. & Sustaining Defts. Objections Thereto. Copies mailed to Atty's. 12-10-73

12-10-73 55) Filed Motion to Recuse or Disqualify HON. ERNEST GUINN.

12- 5-73 Hearing on Motion to Produce — Court heard from both sides. Motion Denied. Another hearing on 12-18-73

12-18-73 56) Filed Motion to Produce, in dup. Called Joe Elliott to inform him.

1-17-74 57) Filed Defendant's Response to Plaintiff's Request for Production, Inspection and Copying of Documents

2- 6-74 58) Filed Memorandum in Opposition to Defendant's Motion for a new Trial.

2- 7-74 59) Filed Order which grants Motion for New Trial. copies to Attys.

2- 7-74 COURT RULED: Granted Motion for a new trial — expense of hearing cost of transcript — assessed against deft.

2- 6-74 Hearing on Motion to Produce under Rule 34 — Denied. (1) Notes, memorandum, etc. (2) 21 Letters, (3) Documentary Evidence. Motion for New Trial — Carried — rule invoked — witnesses sworn. Court takes under advisement until tomorrow morning at 11:30 A.M.

3- 6-74 60) Filed Notice of Appeal to 5th Circuit, CC mailed to New Orleans

In the United States District Court
for the Western District of Texas
El Paso Division

AG PRO, INC.,
Plaintiff,

versus CA No. CIV-68-118-EP

BERNARD A. SAKRAIDA,
Defendant.

COMPLAINT FOR PATENT INFRINGEMENT

Comes now plaintiff and for cause of action against defendant alleges as follows:

I.

This action arises under the Patent Laws of the United States and jurisdiction is conferred on this Court by Title 28, United States Code, § 1338(a).

II.

Plaintiff is a corporation of the State of California with a principal place of business in Santa Rosa, California.

III.

Defendant is a resident of El Paso, Texas.

IV.

On December 14, 1965, United States Letters Patent 3,223,070 entitled "Dairy Establishment" were duly and legally issued to plaintiff as assignee of Donald

Joseph Gribble and Henry E. Bennett and plaintiff is the owner of the entire right, title and interest in and to said Letters Patent.

V.

Defendant has infringed said Letters Patent and will continue to do so unless enjoined by this Court.

VI.

Defendant has been on notice of said Letters Patent and his infringement thereof, has been willful, wanton and in deliberate disregard of plaintiff's rights.

WHEREFORE, plaintiff prays that:

1. Defendant be required to pay over and account to plaintiff for all gains, profits and advantages derived from his infringement of said Letters Patent.

2. Defendant be required to pay treble damages to plaintiff in view of his willful and wanton infringement.

3. The Court award reasonable attorney fees and costs of this action.

4. Plaintiff have such other and further relief as is just.

EDWARDS, BELK, HUNTER
& KERR

/s/ FRANK HUNTER
Frank Hunter
Attorneys for Plaintiff

Of Counsel:

KOLISCH & HARTWELL
J. Pierre Kolisch

[Title Omitted in Printing]

DEFENDANT'S ORIGINAL ANSWER

Filed: Oct. 28, 1968

COMES NOW BERNARD A. SAKRAIDA, Defendant in the above styled and numbered action, and in Answer to the Complaint filed herein says:

FIRST DEFENSE

The Complaint fails to state a claim against Defendant upon which relief can be granted.

SECOND DEFENSE

Defendant admits the allegations in paragraph I of the Complaint; alleges that he is without knowledge or information sufficient to form a belief as to the truth of the allegations contained in paragraph II of the Complaint; and denies each and all of the other allegations contained in the Complaint.

WHEREFORE, Defendant prays that Plaintiff take nothing by this its action and that Defendant have judgment of the Court, and that he have his costs herein expended.

/s/ J. F. HULSE
J. F. Hulse
11-D El Paso Nat. Bank Bldg.
El Paso, Texas 79901

Attorney for Defendant
OF COUNSEL:

OF COUNSEL:

SCOTT, HULSE, MARSHALL & FEUILLE
11-D El Paso Nat. Bank Bldg.
El Paso, Texas 79901

[Certificate of Service Omitted in Printing]

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[12] DEPOSITION OF BERNARD A. SAKRAIDA

Filed: May 16, 1969

BERNARD A. SAKRAIDA

CROSS EXAMINATION

BY MR. KOLISCH:

Q Now, Dawn Dairies had a manure flush system of the Agpro type?

A As you refer to it, yes.

Q I would like you to tell us what capacity you worked at the Dawn Dairy job?

A I worked as a supervisor. I did not have a general contract.

Q And the job was designed as I understand it, by Agpro, is that correct?

A That is correct.

Q And you worked closely with them on that job?

A Yes, sir.

Q Was that the first flush system job you worked on, Agpro type?

A The first one I had worked on of Agpro type, yes, sir.

Q Prior to Dawn Dairy, were you aware of any flush system of the Agpro type?

A For approximately several years before that. I had seen one at Pine Hill.

Q And that was another Agpro installation?

A Yes.

Q Any others?

A Not that I recall that was like their's, no.

* * *

---

[12] DEPOSITION OF DONALD JOSEPH GRIBBLE

Filed: May 16, 1969

DONALD JOSEPH GRIBBLE

a witness, called by the Defendant, having first been duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

CROSS EXAMINATION

BY MR. HULSE:

Q Will you state your name, please?

A Donald Joseph Gribble.

Q And where do you live?

A 1226 Cranbrook Drive, Hixson, Tennessee.

Q What is your business address?

A It's the same address, and P. O. Box 6052, Santa Rosa, California.

Q Did you formerly live in Santa Rosa, California?

A Yes.

Q How long have you been living in Tennessee?

A Since last September.

Q What is your occupation?
A I am an engineer.
Q Graduate of an engineering school?
A Yes, sir.
Q What school?
A Oregon State University.
Q What year?
A 1957.
[50] Q What degree?
A Bachelor of Science Degree in Agricultural Engineering.
Q Have you moved your place of business, substantially, then, to Tennessee from California?
A No. We have opened a branch office.
Q How large an organization do you have?
A In what terms?
Q Well, employees?
A Twelve to fifteen.
Q You do business through Agpro, Inc., do you not?
A Yes, sir.
Q Which is incorporated in the State of California?
A Yes, sir.
Q Does Agpro have a permit to do business in Tennessee?
A Yes.
Q And you have some — Agpro has some ten or fiteen employees?
A Yes.
Q Are there any of them besides yourself in Tennessee at the present time?
A Yes, sir.
Q What work is Agpro, Inc., primarily engaged in?
A We design agricultural facilities and manufacture some of the equipment used in the facilities.

[51] Q What all does that include, does that include barns? It includes dairy, I assume, from what we know about this case?
A Yes.
Q And besides dairies, what else do you do?
A Some work in beef operations, and poultry, and other animal-raising enterprises.
Q How long have you been engaged in this type of work yourself?
A Personally?
Q Yes.
A Since I got out of the Service in 1960. Prior to that, part time while going to college.
Q When was Agpro, Inc. incorporated?
A I believe '63, but I would want to verify that from my records.

* * * *

[52] Q Well, I will hand it over to you. I will ask you a question and I will hand it to you to look at it. Mr. Gribble, I want to ask you a couple of questions about a write-up, four pages, that appears to be run off on something similar to a mimeograph, headed, "Manure-Flush, Agpro, Inc., P. O. Box 6052, Santa Rosa, California", and just for the purpose of your identifying it, I will hand it to you. That is a paper which was put out by Agpro, Inc., was it not?
A Yes.
Q And that, I assume, is your write-up about —
A — Yes —
Q — the manure flush system.
A Yes.
Q May I have it back, please?
A Yes.

Q In the first paragraph, refers to a U.S. Patent Number, and the second paragraph says this covers [53] the hydraulic flush concept and so forth. And the third paragraph I want to ask you about. It says, "Basically, this method consists of releasing a large volume of water upon uniformly sloped alleyways." That, I assume, is the basic concept of the patent?

A Yes, sir.

Q Is there anything unusual about that, as stated in the sentence I just read to you?

A Yes, the accumulation of water in a large quantity to be released on that, such lanes, is a — or was at that time, a rather unique development for the clean-up and carrying away of animal waste.

Q So really what is unique about it is the amount of water, is that right?

A This is a difficult question, because it can vary tremendously, depending on the amount of offal to be cleaned up, and the type of animals, chickens, for instance, would represent a relatively small amount of water, of waste and water, where a long cow lane would represent a much large amount. So I don't know exactly how to answer your question.

Q Well, from the way you had stated your prior answer, I was just checking to see if my understanding was correct. I understood it, in essence, to be that the [54] collection of a large amount of water to be turned loose on these runways was what was unique.

A Yes.

* * * *

[57] Q My question is, is it not true, in view of your prior answer, that what you state is the unique thing about this so-called manure flush system, is the

amount of the water that is collected for the purpose of turning it loose on the alley-ways?

A No, there are several things that are unique about the system, as described.

Q Well, what else? Just enumerate them all for me, would you?

A The hinged water bins for holding, retaining the water, and releasing it. The careful relationship and attention to detail that has to be maintained between all flow areas of the barn, or the facility to be cleaned.

Q And this is what you call the basic concept on which the idea behind this patent is based?

A Yes.

Q And you originally had several different ideas about how the result could be accomplished, could be done, and you set them out here, one, two, three, and four in this paper, I believe, didn't you?

A Yes.

* * * *

[58] Q Did you prepare the claims that were presented in connection with the application for the patent?

A Yes.

Q Are you familiar with the claims?

A Yes, sir.

Q Are these claims as set out, in line with your idea on which the patent was based?

A Yes.

Q In the patent, your claims are set out there in three numbered paragraphs, are they not, or do you [59] recall?

A Yes, as I recall.

Q And in Claim Number 1, which appears in Column Number 6 of this patent, the first thing set out is an evenly contoured, paved surface, forming a floor, providing a walking surface for cows in the barn. Is — I'm not sure that I know what is meant by "evenly contoured"; does that mean a smooth surface, or what?

A Relatively to the hydraulic movement of the water. It wouldn't necessarily be a level surface; for instance, it goes around the corner, the sides might be raised or banked similar to the bank.

Q But where is — do you propose by this to have a flat surface, but tilted so that the plane is not quite horizontal?

A That's an element of the design, yes.

Q And I am trying to find out, I don't know what is meant by this word, "contoured", really, is what I don't really know what it means here.

A The most effective removal of the waste material is not obtained with a flat surface, from side to side. We use a small amount of crown, generally. The amount depends on the width of the lane.

Q Well, using a small amount of crown, do you mean by [60] that, something like the crown that they have had in some of these old highways where it is sort of leveled up towards the center and comes down on each side?

A That would be an exaggerated example, yes.

Q Well, could you tell me what you mean by it as appears in this Claim I that I just read this clause from. Let's just back up and start over, what do you mean by this word, "contoured" as used here?

A It would have to do with the shape of the top surface of the floor.

Q And what shape would that call for, then?

A Relatively smooth, with a slope in one direction, and then depending on corners and such things that would have to be negotiated, and the location of the manure on the floor.

Q In other words, you may bank it at the corners, where the water has to go around the bend, or something, or corner?

A This is sometimes done, yes. And along a row of free stalls, where the bulk of the manure would perhaps accumulate, next to the curb, the floor would be either crowned or tilted slightly in that direction. The contour, as I would interpret it, is the general shape of the surface of the floor.

[61] Q Well, looking at the first page of the drawings attached to that patent, the different areas are numbered here, which maybe will help us. Number 30 here, is a tank for the water?

A Yes.

Q And 26 is the alley-way which is to be washed off?

A Yes.

Q Well, now are we talking about a contoured surface for 26?

A Yes.

Q And as 26 appears on this drawing here, would this be a flat surface, but tilted at a slight angle toward 15-a?

A Yes. 15-a?

Q Yes.

A Yes.

Q And what's contoured about it, then?

A Well, what is your idea of contour?

Q Well, I don't know, I'm trying to find out, my idea of contour — the only contour I know is one of these

relief maps, that shows mountains and valleys and ridges, and all that kind of stuff.

A Yeah. Right, it describes the top surface of a plane, or of some object. And the contours, in this case, are describing the top surface of the floor.

[62] Q Well, I understand that from what you have just said, but I don't know what kind of a floor we are going to get here, when you say "contour" —

A — in that particular case —

Q — are we going to get the Rocky Mountains, or the Appalachians, or the Mississippi Valley; what are we going to get here?

A In that particular case, you would have a relatively level surface, laterally, and a slope in the direction toward 15-a, with a small amount of crown in the center.

Q That's what really wanted to know. A small amount of crown in the center?

A Yes.

Q And in this Claim I, following that statement, which I originally read from this Claim I, it also says "drain means for draining wash water from such floor opening at the top of the floor." That's just like a little ditch, or something, isn't it?

A Where are you reading now?

Q Where it says "drain", right down in here somewhere.

A I haven't found that sentence you read yet.

Q Right here. Starting right there at that mark.

A What is your question?

Q My question is that that drain that is referred to [63] there is simply a groove, or a small ditch, or something, designed to drain water?

A I'm not sure if the intent here is to describe the collection drain or the dispensing.

* * * *

[65] Q Then where is the drain that is referred to in what we just read?

A The collection drain on this type of a lay-out, would be at this point.

Q You pointed down here, somewhere in the vicinity of the shaded area that is marked, "20".

A Twenty.

Q Is that what is referred to there, where it refers to that drain?

A Just a moment. Grate 20, yes. That is the grate covering.

Q Well, what kind of a set-up is this Item 20 here?

A It can be a graded ditch or a ditch with — arranged like a scupper, or a ditch covered with a steel door that can be opened to collect the drainage.

Q Well, where this Item 20 is, there is a ditch there, then, is there, which is covered by a grate?

A Yes.

Q And into which this water will flow?

A Yes.

Q So the drain is actually a ditch, isn't it?

A Yes.

Q Now, is there anything unique about having a ditch for a drain?

[66] A These particular ditches have to be designed in such a way that they can accept very high flow rates. The flushing water in a typical installation would be perhaps from two thousand to three thousand gallon, which evacuates the holding tank in a few

second and would arrive at the ditch over a period of perhaps 30 seconds. So the ditch must be large and of a cross section to accept such loads.

Q Beginning with that second check mark there, for the ease of finding what I am reading about, it picks up where I left off before. This Claim I further says, "Said smooth, evenly contoured surface which forms such floor, sloping towards said drain, drain means whereby wash water discharged on the floor may be collected and disposed of through said drain means, picking up that part of it there, and referring back to Sheet 1 of these drawings.

A Yes.

Q Where is the floor that they are referring to there on this Sheet 1, could you point it out by number?

A It would be the floor area from the collection tank to the point where the drainage enters into —

Q — clear on down into the drain?

A Enters the ditch.

Q It would be, then, these that are labeled, "26" and [67] either all or parts of 15?

A Yes, except these numbers may be misleading. It's in the area where those numbers exist, but not necessarily those numbers.

Q So what we have there is a smooth, evenly contoured surface, sloping towards the drain, so that the water will flow down to the drain —

A — yes —

Q — that's what it amounts to?

A Yes.

Q And all that means is that it's — you have got a smooth surface where this water will flow from where it's turned loose, down to where it is picked up in the drains?

A Contoured in such a way that the water will flow in a uniform sheet to cover the surface, picking up all of the waste material as it travels along.

Q And then, beginning where I left off, reading from that Claim I, "Said barn further includes a multiple rest areas, individual stalls for each cow, and with each of said stalls having a bottom which is also a smooth pavement. That's likewise shown on this Drawing I, these individual stalls are shown on either side of those alley-ways —

A — yes, sir —

[68] Q — there, the Number 26?

A Yes.

Q And that's similar to dairy stalls in general, is it not?

A Yes.

Q And then it goes ahead to say, "But which is disposed at an elevation above the paved surface forming the floor." Which means the floor of the stall is raised somewhat above the level of the floor of the rest of the building?

A Yes.

Q That is typical dairy construction?

A Yes.

Q "And with each of said stalls having a bottom, which is also a smooth pavement." And that is also typical dairy construction, is it not?

A Yes, the term "pavement" might be misleading, because it could be hard packed earth, or other material.

Q Any kind of a hard floor?

A Yes.

Q "But which is disposed at an elevation above the paved surface forming the floor." Well, that's the same thing we just mentioned a minute ago, that this floor of

the stall is above the floor of the rest of the dairy barn?

[69] A Yes.

Q "Said stalls being dimensioned so that a cow can comfortably stand or lie in the stall." And that is typical dairy construction, isn't it?

A Yes.

Q And as to which there are variations from one installation to another, are there not?

A Yes.

Q And that's true whether it is done by you, or done by somebody else, isn't it? That the dimensions vary from one installation to another?

A Yes.

Q Depends on several different things, doesn't it?

A Right, breed of the cows, and such things as that.

Q "So the cow can comfortably stand or lie in the stall but offal from the cow falls outside the stall bottom and onto the floor, providing a walking surface in the barn." And that is in line with typical dairy construction, is it not?

A Yes.

Q They were making them that way long before 1965, weren't they?

A Yes. A lot of this is description to —.

Q Description, isn't it?

A Yes.

[70] Q And it is description of what has been common in the dairy business for a long, long time, isn't it?

A It is description necessary to frame the flush concept, in this instance.

Q And then it goes ahead to say, "said barn, further including defined feeding areas, having feeding troughs, with means for discharging feed to the troughs." That is typical dairy construction, isn't it?

A Yes.

Q And it has been used over a long period of time, hasn't it?

A Yes.

Q "The cow holding area . . ." That is also typical of dairy construction?

A Yes.

Q And that has been used over a long period of time?

A Yes.

Q "A milking area." Now, they have all got a milking area?

A Yes.

Q And always have had, wherever they have had a dairy barn, haven't they?

A Yes.

Q "And a transfer area." And they have all got transfer [71] areas?

A Yes, generally, yes.

Q ". . . on bottom, but the walking surface forming said floor in the barn, and the floor-washing means for washing the floor, providing a walking surface in the barn, where said floor bottoms . . ." I'm not sure I can read this and follow it, all at the same time, because it's got such long clauses. "Said feeding, holding, milking, and transfer areas operable to send wash water flowing over the floor, with such water washing any cow offal thereon into said drain means." Well, all that means is it is fixed so that when the water is turned loose, it is supposed to wash the offal off?

A What this means is that these various areas described are disposed of elevations and slopes, and joined together such that this water, as it flows down there, will move a uniform sheet and carry all the waste material to the drain means. As opposed to a

typical drain in a floor, or a sloped floor, which might be beveled, or lowered into a "V" type trough to carry the water down the channel.

* * * *

[72] Q That's generally the old tub idea, isn't it? You just dump a tub of water on the floor and it flows down the floor if the floor has got a slope to it?

A I'm not familiar with the old tub principal.

Q Well, you know what a tub of water will do if you dump it out onto the floor that has got a three percent grade to it, don't you?

A Yes.

Q That's essentially the same thing right there, isn't it?

A No.

Q In what way is it different?

A In the volumes involved and means of dispensing the [73] water.

Q You mean it's not out of a tub, and it is more water?

A Yes.

Q And III, which is over on the next page, is really the gist of your idea as about how this ought to be done, is it? Where it says, the "Barn of Claim I, wherein said floor washing means comprises a dam for damming and collecting water as a pool, directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor, towards said drain means"?

A This has proven to be the most economical construction, as far as the water storage vessel.

Q So instead of putting it in a tub, you have got it behind a dam, where the door will open and let it go right on down right quick?

A Yes, right.

Q And it holds a lot more water than you can put in an ordinary wash tub?

A Right.

Q And that's really the gist of the whole thing, isn't it?

A It's the basic concept of manure flush, yes.

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[16] DEFENDANT'S MOTION FOR SUMMARY JUDGMENT

[Title Omitted in Printing]

Filed: Nov. 5, 1969

Defendant moves the Court to enter, pursuant to Rule 56 of the Federal Rules of Civil Procedure, a Summary Judgment in the Defendant's favor dismissing the action on the ground there is no genuine issue as to any material fact and that the Defendant is entitled to a Judgment as a matter of law.

This Motion is based upon:

(a) A copy of the Patent No. 3,223,070 referred to in Plaintiff's Bill of Complaint.

(b) The transcript of oral depositions of D. J. Gribble and of Bernard A. Sakraida.

(c) Affidavit of W. C. Fairbank.

(d) Affidavit of Bernard A. Sakraida.

(e) Affidavit of Archie Sharp.

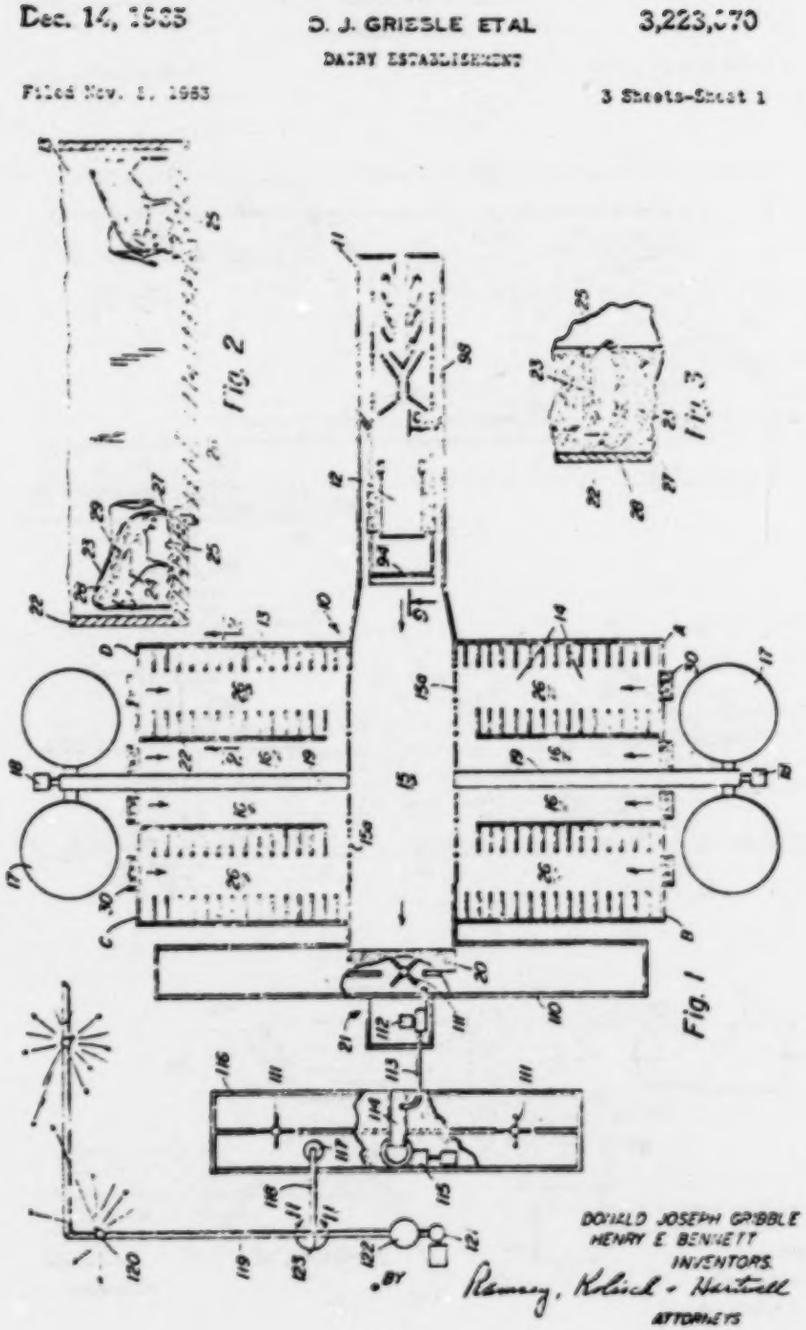
(f) Patent file as furnished by Plaintiff.

Items (a), (c), (d), (e), and (f) are attached hereto. Item (b) is on file in the Clerk's office.

/s/ J. F. HULSE
J. F. Hulse
SCOTT, HULSE, MARSHALL
& FEUILLE
11-D El Paso Nat. Bank Bldg.
El Paso, Texas 79901
Attorney for Defendant

[Certificate of Service Omitted in Printing]

EXHIBIT A



Dec. 14, 1965 D. J. GRIBBLE ETAL 3,223,070

DAIRY ESTABLISHMENT

Filed Nov. 5, 1963 3 Sheets-Sheet 2

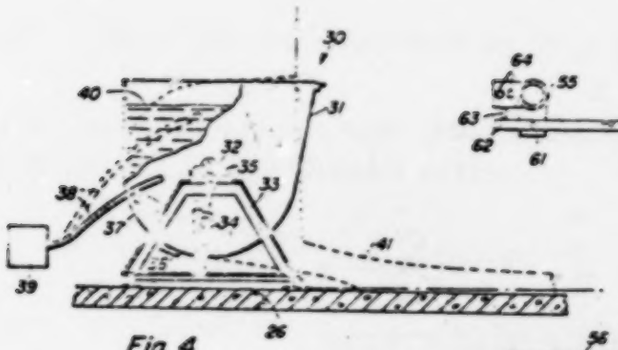


Fig. 4

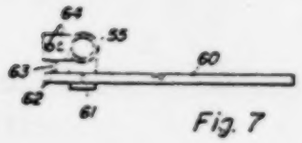


Fig. 7

Fig. 8

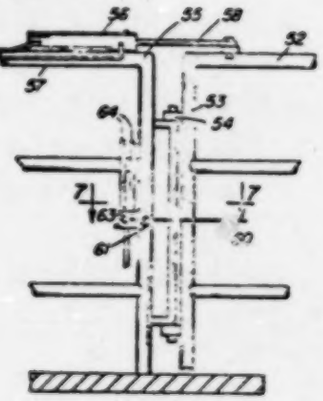


Fig. 6

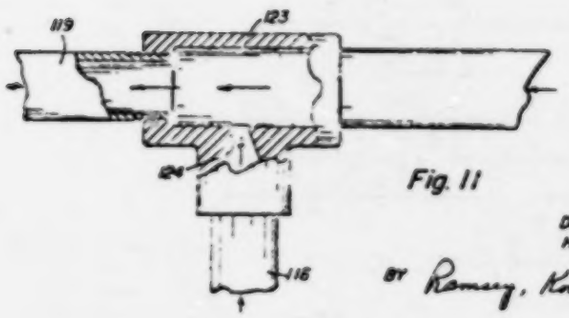


Fig. 11

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Dec. 14, 1965 D. J. GRIBBLE ETAL 3,223,070

DAIRY ESTABLISHMENT

Filed Nov. 5, 1963 3 Sheets-Sheet 3

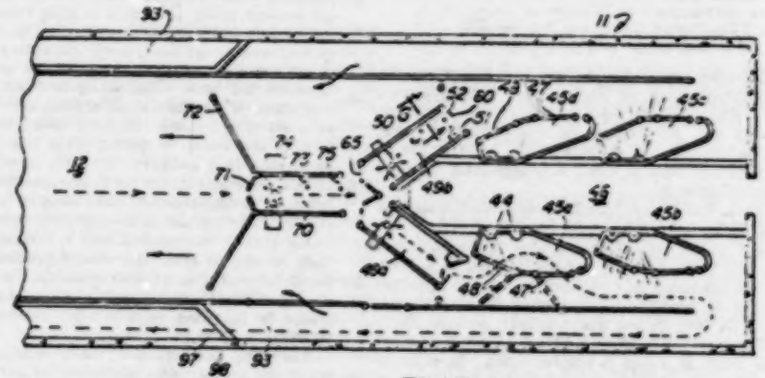

Fig. 5

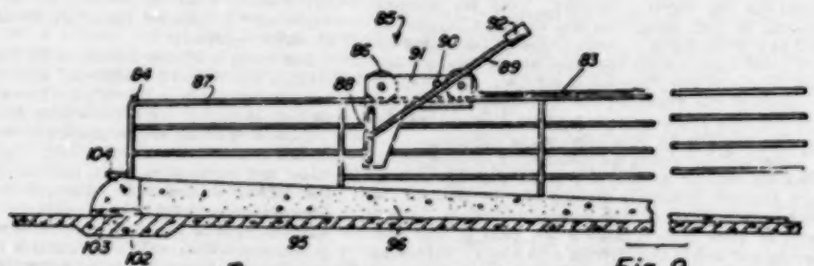

Fig. 9

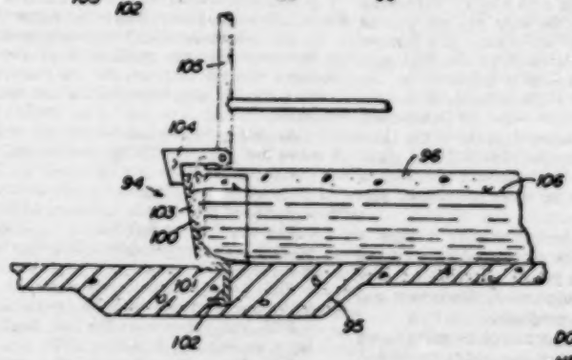

Fig. 10

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United States Patent Office

3,223,070

Patented Dec. 14, 1965

1

3,223,070

DAIRY [illegible]

Donald Joseph C[illegible] and Henry E. Bennett, Santa Rosa, Calif., assignors to AC [illegible] Inc., Santa Rosa, Calif., a corporation of California

Filed Nov. 5, 1963, Ser. No. 321,612
3 Claims. (Cl. 119—15)

This invention relates to method and equipment for care and maintenance of domesticated food-producing animals. While the invention is particularly applicable to the care and maintenance of milk-producing cows, and will be described in relation to the construction of a dairy barn and care of cows, it is applicable to other domesticated animals.

Ever since man domesticated animals, their care and maintenance has involved a great amount of hand labor, particularly in the case of milk-producing animals such as cows which are kept for periods of time in a barn. It is recognized today that in order to achieve optimum results in milk production, cows must be properly fed and cared for and milked under strictly sanitary conditions. The removal of cow offal from a barn is as much of a task today as it was in ancient times. In order to produce good, sweet milk, it is important that there be no accumulations of cow manure and urine in the barn because milk readily absorbs odors directly as well as through the respiratory system of the cows. Furthermore, accumulations of manure in the usual piles or lagoons employed in connection with dairy operations are obnoxious and highly unsanitary. They are breeding grounds for flies, mosquitoes and all forms of pests as well as a prime source of water contamination. Seepage and runoff from manure accumulations contaminate surface as well as subsurface water supplies. According to a feature of our invention, this is completely eliminated and cow offal is continuously removed from a barn and put into condition for expeditious use as fertilizer.

Under known dairying techniques cows are maintained, when the weather permits, in pastures near the milking barn and are periodically brought into the barn for the purpose of milking and then returned to pasture. Movement of cows between pasture and barn is time consuming and entails considerable man hours. Permitting cows to graze a pasture is not the most efficient way of feeding them. When cows are turned loose in a pasture, they graze it unevenly, trample much of the feed, and the manner in which their manure is deposited on the ground destroys the feed with which it comes in contact and doesn't do the ground much good. Furthermore, flies and other undesirable pests are attracted to the area. From the foregoing, it will be appreciated that a given field will produce more and better feed if the feed is removed therefrom and fed to the cows rather than permitting them to graze.

The object of the present invention is to provide a really completely sanitary dairy system which produces uniformly high-quality milk in greater quantities per cow than heretofore produced at substantially lower cost and with much greater ease to the producer.

The object of the invention is achieved by maintaining a herd of dairy cows under controlled, sanitary conditions. Pasturing of cows is completely eliminated. The cows are maintained in a large barn having various areas in which the cows rest, eat, and are milked on a controlled cyclical schedule. Cows are known to be creatures of habit and they readily adapt themselves to moving at the desired times from one area to another. Substantial hand labor and man hours are eliminated by keeping the cows relatively confined and the quantity and quality of their milk is markedly enhanced.

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According to a feature of the present invention, the areas in which the cows are confined are so constructed that they can be periodically flushed clean by water which is collected and utilized thereafter. Some of the waste products which accumulate on the floor of a dairy barn are manure, urine, feed, stall bedding material, and milk. All of this waste is removed by the flushing water and formed into a fertilizer slurry which may be applied by suitable sprinkler irrigation mechanism to the fields surrounding the barn. The slurry is diluted to an extent that there is no objectionable odor and flies and other pests are not attracted. There is little fertilizer value loss because the slurry is applied while still relatively fresh to the soil in a condition in which it can be easily absorbed. An application of slurry to a field may be followed by an application of clear water which will wash out the sprinkler system and clean the foliage in a field. Much greater soil productivity is thereby achieved and feed, as well as other agricultural products, can be produced in greater and better quantity. If desirable, it is also possible to transport the slurry by tank cars or trucks to locations remote from the barn for use as fertilizer.

According to a feature of the invention, the areas over which the cows are free to roam in the barn are of a hard-paved surface, such as concrete, and are on a slight angle so as to permit drainage in a desired direction into collecting tanks. Water-dispensing means are so constructed and positioned that they can be automatically actuated at predetermined times to release relatively large quantities of water for washing the barn floors. The wash water is collected for subsequent fertilizer use, as previously mentioned.

According to another feature of the invention, the rest stalls of the cows are constructed so that a cow's body can comfortably fit in the stall, but cow offal is deposited outside the stall on the concrete floor which is flushed.

According to still another feature of the invention, just before a cow moves into milking position, the cow's udder and surrounding areas, such as flanks and lower rear legs are washed clean. The cow is also stimulated for easier and quicker milking. In this process, the cow's udder is subjected to a spray of warm water and thereafter primed for milking. This stimulates the cow to let her milk down and immediately thereafter the cow is milked. A cow which is milked according to the method of the invention not only produces more and better milk, but udder damage and mastitis are materially reduced and the period of time over which a cow will be productive is increased.

According to still another feature of the invention, the cows just prior to milking pass through a series of stalls having gates which are operated by the movement of the cows whereby each cow will be in a milking station at a desired time and in optimum milking condition.

These and other features of the invention will be explained in greater detail in conjunction with the drawings, in which:

FIG. 1 is a schematic top plan view of a dairy installation in accordance with the present invention;

FIG. 2 is a section on the lines 2—2 of FIG. 1, showing cows standing in resting stalls;

FIG. 3 is a top plan view of a cow lying down in a resting stall;

FIG. 4 is a side elevation of a water-dispensing dump tank according to the invention;

FIG. 5 is an enlarged top plan view of the milking area of the barn of FIG. 1;

FIG. 6 is a section on lines 6—6 of FIG. 5, showing a gate;

FIG. 7 is a section on lines 7—7 of FIG. 6, showing mounting of control rod and gate;

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FIG. 8 is a top plan view of a portion of the front gate and spray-washing mechanism of the washing stall of FIG. 5;

FIG. 9 is a side elevation partly in section of a portion of the cow-holding area, dam in lowered position, and crowding mechanism;

FIG. 10 is an enlarged side elevation partly in section of a portion of FIG. 9, showing the dam in raised position; and

FIG. 11 is an enlarged side elevation partly in section on lines 11—11 of FIG. 10, showing a venturi connection.

Referring to FIG. 1, there is generally indicated at 10 a building enclosure or barn which is divided into various areas. Milking wing 11 has a cow-holding area 12 in which cows are confined just prior to milking. The cows are maintained in groups or units indicated at A, B, C, D in FIG. 1. The cows from a particular group are milked together and the milking times of the various groups may be arranged so as to provide for a convenient schedule of milking the cows and cleansing of the various areas of the barn. Each cow has her own stall 13 within a resting area 14 that corresponds with her particular group. Each resting area opens on to a central transfer or roaming area 15 and feeding areas 16. Gates 15a control movement of the cows from the rest and feeding areas into the transfer area. The cows are not confined to their stalls and are free to move between rest and feeding areas as they desire. This will, of course, usually be when feed is made available to them in the manner about to be described.

Feed-storage silos 17 are connected by suitable mechanically driven and controlled conveyer means 18 to feed troughs 19 in feeding areas 16. Mechanism 18 may be adjusted to deliver the amount, type, and frequency of feed desired to troughs 19. If desired, each silo can be filled with a different type of feed which is metered in predetermined amounts to the automatic conveyer mechanism which deposits it in the feed trough where it is freely accessible to the cows.

It will be appreciated that the number of groups of cows, as well as the number of cows in each group, can be varied and the construction of the barn will be appropriately adjusted.

All of the floor area of the barn over which cows are permitted to walk is covered by a relatively smooth, hard surface, such as concrete, which will satisfactorily withstand repeated washings. The floors are sloped so as to permit drainage towards grate 20 of a fertilizer recovery and utilization system, generally indicated at 21. A uniform slope of the barn floors at a rate of around three feet per hundred feet has been found to be satisfactory.

As best seen in FIGS. 2 and 3, each of the cow-resting stalls 13 is defined by a front wall 22, side-dividing and cross members 23, 24, and floor 25 which is raised above the level of alley floor 26. The length and width of a stall 13 is such that a milking cow of a particular breed can comfortably accommodate herself in a stall in either standing or lying position. Commercially operated dairies usually milk only cows of a particular breed whose sizes do not vary materially. However, if for any reason it is necessary to accommodate cows of varying sizes and dimensions, the stalls can be varied by use of a movable neckboard 28 on sloped guide rails 29 whereby the board may be adjusted depending on the length and height of a particular cow. The important consideration in either case is that the size of the stall is such that all cow offal falls outside the stall and is deposited in alley 26, which is sloped as previously mentioned. The cows are prevented from turning in their stalls and their bedding 27 remains clean and dry and off of the floor areas subjected to water flushing, as hereinafter described.

At the uphill end of each alley 26, means for releasing a relatively large amount of water to flush the alleys clean are provided. The water-releasing means may conveniently take the form of dump tanks 30 (FIG. 4),

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comprising a large water-holding container 31 pivotally supported at either end on axle shafts 32 suitably mounted on frames 33 resting on alley floor 26. Shock absorbers 34 are connected by cranks 35 to shafts 32. Counterweight 36 is mounted on the back side of container 31. Adjustable return springs 37 are mounted on either end of container 31 and adapted to engage the frame 33 to position the tank in upright position. Water-inlet hose 38 is connected at one end to the tank and at another end to water-control means 39, which may be adjusted depending on the desired rate of water flow in the tank. When container 31 is filled above line 40, the tank tips forward and dumps a sheet of water 41 on the floor. The empty tank is returned to upright position by the counterweight for refilling. It will be appreciated that a tank may be adjusted automatically to release desired amounts of flushing water on a cyclical basis, such as every four hours.

Turning now to the milking wing, as seen best in FIGS. 1 and 5, four milking station stalls 45a, 45b, 45c, 45d are positioned around a pit 45. Inside the pit an operator stands and applies connections from the automatic milking machines (not shown) to the cows. Each milking stall has a pair of air-operated gates 47, 48 which are controlled by the operator through suitable control mechanism (not shown). When operated, the gates swing open to a position shown in dotted lines in FIG. 5, permitting a cow which has been milked to leave the stall and the next cow to be milked to enter the stall. Water sprays 44 continuously spray water on the floor in the milking stalls in order continuously to remove spilled milk and any cow offal. Immediately behind milking stalls 45c and 45d there are two milk stimulation stalls 49a, 49b, each having sprays 50 for directing warm water or warm drying air against the udder and surrounding areas of a cow standing in the stall. A feed box 51 is provided at the forward end of each stimulation stall into which, through automatic means (not shown), a predetermined amount of feed is placed in the box each time a cow comes in the stall.

Referring to FIGS. 6 and 7, there will be explained the construction and operation of gate 52 in stall 49b which is similar to the other air-operated gates employed in the other stalls in the milking area. Post 53 of gate 52 is hinged at 54 to post 55 of the stall. Cylinder 56 mounted on rail 57 is connected by piston 58 to gate 52. Air lines 59 are connected at one end to cylinder 56 and at the other end (not shown) to actuating means controlled by opening of gates 47, 48 of milking stalls 45c, 45d, whereby when one of those milking stalls is free, gate 52 opens and a cow within stall 49b is free to enter the open milking stall. Control rod 60 is pivotally mounted at 61 on post 55 at the front of the stall and operated by the cow as she leaves the stall. Back end 62 of rod 60 is adapted to engage plunger 63 of air lines 64 which control closing of gate 52 behind the cow and opens a gate 65 permitting a cow to pass from washing stall 70 into whichever of stalls 49a or 49b is open.

A cow enters washing stall 70 through gates 71 flanked by guide rails 72 when the gates are opened under control of gate 48 of a milking stall opening. As a cow moves into stall 70, she engages a control rod 73 in the stall that actuates spray heads 74 positioned in the floor of the stall to eject a spray of water that will wash the udder and surrounding areas of the cow standing in the stall. Heads 74 are turned off when gate 75 of the stall opens to permit a cow to leave the washing stall.

Referring to FIG. 8, mechanism for controlling spray heads 74 is shown. Cylinder 76 is mounted on post 77 of the stall. Piston 78 of the cylinder is connected at 79 to gate 75. Operation of piston 78 is by air lines 80 which are controlled by opening of gates 65. When gate 75 is in closed position shown in dotted lines, it engages plunger 81 permitting water to pass through conduit 82

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to heads 74. Opening of gate 75 disengages plunger 81 and shuts off water to heads 74.

When the cows are ready for milking, they will naturally congregate in the milking area. In order to expedite their movement through the milking stations and segregate the cows who are to be milked, there is provided in holding area 12 which leads into the milking area, a crowding device generally indicated at 85 (FIG. 9) one-half of which is shown, the other half being the same. Rollers 85 ride along top rail 87 on either side of the holding area. Transverse rails 88 extend between each half of the crowding device and are connected to one end of lever 89 which is pivotally mounted at 90 to side plate 91 hanging from wheels 86. A weight 92 is provided at the other end of lever 89. When the lever is pushed down, rails 88 are swung up permitting cows to pass underneath. When the cows are all inside the rails, they are lowered and as it is desired to move cows through holding area 12 in the direction of dashed arrow lines (FIG. 5), the crowding device is moved forwardly in the direction of the solid arrow (FIG. 9) by pulling cable 23. A stop 84 is positioned at the end of rail 87 to limit backward movement of the crowding device. The cows will one at a time then proceed through the washing, milk stimulation, and milking stalls in the direction of the dotted arrows (FIG. 5). Once a cow has been milked, she will leave the milking area of her own volition down cow-return alleys 93 to area 15, and to her stall or feeding area. The system of gates and rails will prevent her from mingling with cows in the holding area awaiting milking.

Near the juncture of holding area 12 and transfer-roaming area 15, a dam 94 is provided for controlling flow of flushing water from the milking area. Floor 95 of the milking area slopes into area 15 which slopes toward grate 20 at about a pitch of 3' in 100'. Water-retaining walls 96 extend along either side of the holding area. Wings 97 extend from one end of walls 96 to side walls 98 of the milking wing and dam 94 extends between the other two ends of the water-retaining walls. The dam comprises a steel plate 100 (FIGS. 9, 10) which at 101 is hinged to a channel iron 102 embedded in floor 95. A sheet of tough rubber-like material 103 prevents leakage of water between the plate and channel and along the sides when the dam is raised as shown in FIG. 10. A catch 104 on post 105 holds the dam closed when it is in raised position. When the catch is released, the dam is free to fall flat on the floor, as shown in FIG. 9. It is in the latter position while a group of cows are passing into the holding area preparatory to milking. Once all the cows are confined in area 12, the dam is raised to retain flushing water coming in the milking area. Water behind the dam may rise up to line 106. After a group of cows have been milked, dam 94 is dropped and a relatively large volume of water is released into area 15 which is thereby cleansed.

It will be seen from the foregoing that all of the water which is used to flush the floors of the barn drains toward grate 20 which is so constructed as to permit the water and entrapped offal to collect in tank 110 of the fertilizer recovery and utilization system (FIG. 1). Tank 110 may conveniently be placed underground and an agitator 111 in the tank mixes the water and offal into a slurry. Pump 112 and pipe 113 pass the slurry through a dewatering device 114 from which excess water is removed, and through a grinder 115 which grinds all large solids, feed, rest stall bedding material, etc., to a size small enough to pass through a sprinkler. The resulting slurry is maintained in another storage tank 116 having agitators 111 therein. When fertilizer slurry is desired, pump 117 pumps it from the tank into pipes 118, 119 connected to sprinklers 120 in the fields adjoining the barn. There is also connected to pipe 119 a source of clean water and pump 121 which pumps water under pressure into pressure tank 122.

Referring to FIG. 11, there is shown one way—venturi action—of passing slurry through the sprinkler system. At the juncture of pipes 118, 119 there is a coupling 123 and a restricted orifice 124 in pipe 118. Slurry under pressure passes through orifice 124 where it is mixed with clean water under pressure from tank 122 and moves in the direction of the arrows to the sprinklers. In place of the venturi a high pressure centrifugal or other suitable type of pump could be used in the system.

It will be appreciated that the amount and mixture of fertilizer slurry can be controlled as desired. Also, after fertilizer slurry has been deposited in the fields, clean water can be sent through the pipes in order to wash them out and any fertilizer remaining on the foliage. In this way the fertilizer is washed into the ground, and there are no obnoxious odors or attraction for flies and other pests. If, in the winter or at other times, it is not desired to fertilize the adjoining fields, the storage tanks may be emptied into tank cars or the like for transportation of the fertilizer to other areas where it may be utilized.

It will be noted from the foregoing description of the invention that personnel to operate a dairy barn have been greatly reduced from that normally employed and that the cows to a great extent have been left free to move of their own volition. It has been found that cows are creatures of habit and learn a routine quickly, particularly where it is to their comfort and advantage. Cows therefore lend themselves readily to the desired cyclical movements from one area to another at the desired times with a minimum of human effort.

While the system has been explained with respect to specific embodiments of the invention, it will be appreciated by those skilled in the art that various changes may be made in the construction without departing from the scope of the invention as defined in the appended claims.

It is claimed and desired to secure by Letters Patent:

1. A dairy barn for cows and the like including a smooth, evenly contoured paved surface forming a floor providing a walking surface for cows in the barn, drain means for draining wash water from such floor opening to the top of the floor, said smooth, evenly contoured surface which forms such floor sloping toward said drain means whereby wash water discharged on the floor may be collected and disposed of through said drain means, said barn further including multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also of smooth pavement but which is disposed at an elevation above the paved surface forming the floor, said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn, said barn further including defined feeding areas having feeding troughs with means for discharging feed to the troughs, a cow-holding area, a milking area and a transfer area all bottomed with the walking surface forming said floor in the barn, and floor-washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor-washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor.

2. The barn of claim 1, wherein said floor-washing means comprises a water dump tank disposed above the floor, and a mounting for the tank including means whereby the same may be tipped thereby to allow the contents of the tank to escape abruptly from adjacent the top of the tank and to cascade onto the floor to form a sheet of water thereon.

3. The barn of claim 1, wherein said floor-washing means comprises a dam for damming and collecting water as a pool directly on the floor, and said dam is abruptly openable to send such water as a sheet over the floor toward said drain means.

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The Way Cows Will be Milked on Your Farm "Tomorrow," Babson Bros., Dairy Research Service, 1959, p. 13.

SAMUEL KOREN, *Primary Examiner.*

HUGH R. CHAMBLEE, ALDRICH F. MEDBERY, *Examiners.*

BEST COPY AVAILABLE

EXHIBIT C

THE STATE OF CALIFORNIA
COUNTY OF RIVERSIDE

BEFORE ME, a Notary Public, in and for said County and State, on this day personally appeared W. C. Fairbank, who, having been by me first duly sworn, upon his oath deposed and said:

That he resides in Riverside, California, is an agricultural engineer by training and practice, and is employed as Extension Agricultural Engineer, Department of Agricultural Engineering, University of California, Riverside, California; and that he has personal knowledge of the facts hereinafter set out.

1. That he is a graduate of University of California, and received a degree as an agricultural engineer in 1950; that he has been employed by the University of California as an agricultural engineer for 11 years, and has been so employed in the Riverside, California Branch of the University of California for 4 years.

2. That a dairy barn for cows

(a) having a smooth, evenly contoured, paved surface as a floor, which provides a walking surface for cows in the dairy barn;

(b) having a drain as a means for draining wash water from an evenly contoured, paved surface, forming the floor of such barn, opening to the top of the floor;

(c) having an evenly contoured surface forming a floor of such barn, and sloping towards such a drain as above referred to, whereby wash water discharged on the floor may be collected and disposed of through the drain;

(d) having multiple rest areas with individual stalls for each cow, but which is disposed at an elevation above the paved surface forming the floor, the stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn;

(e) having adjacent or connected feeding areas with feeding troughs with means for discharging feed to the troughs;

(f) having a cow-holding area, a milking area, and a transfer area, all bottomed with the walking surface of the barn;

(g) having a means for washing the floor providing the walking surface in the barn where the said floor bottoms the feeding, holding, milking, and transfer areas, operable to send washwater flowing over the floor with such water washing any cow offal thereon into said drain means, which floor washing means includes means located over a region of the floor which is up-hill from said drain, and operable to disperse the water as a sheet of water over said floor;

(h) having a floor washing means comprised of a water supply disposed above the floor, and arranged whereby said water can be released to flow as a sheet of water thereon;

(i) having a floor washing means as referred to in statements above made, but comprised of a dam for damming and diverting water adjacent to the barn floor which dam is operable to send such water as a sheet over the floor toward said drain means, said drain means have all been used in the dairy industry in the United States for years prior to the year 1963. All of such things have been used prior to 1963 at such places as Weed, Lodi, and Bishop, California.

FURTHER, AFFIANT SAYETH NOT.

/s/ W. C. FAIRBANK
W. C. FAIRBANK

SUBSCRIBED AND SWORN to before me by the said W. C. Fairbanks on this 13th day of October 1969 to certify which, witness my hand and seal of office.

/s/ MARION L. MEAD
Notary Public In and for
Riverside County, California

(SEAL)

EXHIBIT D

THE STATE OF TEXAS
COUNTY OF EL PASO

BEFORE ME, a Notary Public, in and for said County and State, on this day personally appeared BERNARD A. SAKRAIDA, who, having been by me first duly sworn, upon his oath deposed and said:

That he presently resides in El Paso County, Texas, and that he has been engaged for many years in the construction of dairy barns and dairy facilities in connection therewith. That growing out of his business and experience he has knowledge of the facts herein stated.

That a dairy barn for cows

(a) having a smooth, evenly contoured, paved surface as a floor, which provides a walking surface for cows in the dairy barn;

(b) having a drain as a means for draining wash water from an evenly contoured, paved surface, forming the floor of such barn, opening to the top of the floor;

(c) having an evenly contoured surface forming a floor of such barn, and sloping towards such a drain as above referred to, whereby wash water discharged on the floor may be collected and disposed of through the drain;

(d) having multiple rest areas with individual stalls for each cow, but which is disposed at an elevation above the paved surface forming the floor, the stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn;

(e) having adjacent or connected feeding areas with feeding troughs with means for discharging feed to the troughs;

(f) having a cow-holding area, a milking area, and a transfer area, all bottomed with the walking surface of the barn;

(g) having a means for washing the floor providing the walking surface in the barn where the said floor bottoms the feeding, holding, milking, and transfer areas, operable to send wash-water flowing over the floor with such water washing any cow offal thereon into said drain means, which floor washing means includes means located over a region of the floor which is up-hill from said drain, and operable to disperse the water as a sheet of water over said floor;

(h) having a floor washing means comprised of a water supply disposed above the floor, and arranged whereby said water can be released to flow as a sheet of water thereon;

(i) having a floor washing means as referred to in statements above made, but comprised of a dam

for damming and diverting water adjacent to the barn floor, which dam is operable to send such water as a sheet over the floor toward said drain means;

have all been used in the dairy industry in the United States for years prior to the year 1963. All of such things have been used prior to 1963 at such places as Weed, Lodi, and Bishop, California; and

(j) That he has not collected water in a dump tank so arranged that it could be tipped, spilling the water out of it on to the floor, but that there is nothing new or novel about this, as it is merely the idea of tipping a tub to pour out the water, for which a simple mechanical arrangement would be necessary to tilt the tank;

(k) That a dairy floor-washing means comprised of a dam for damming and collecting water as a pool directly on the floor, with such dam being abruptly operable to send the water as a sheet over the floor toward the drain means is not new; nor is there anything new in the idea of the dam being comprised of a steel plate, hinged to a channel iron embedded in the floor, with a rubber seal around the edges, and held by a simple catch attached to a post. The steel plate is a simple plate, obtainable at any iron or steel works, and is already fabricated as a piece of steel plate, needing only to be cut to size. Nor is there anything new in it being hinged to a channel iron embedded in the floor, this being a simple construction long known to anyone in the construction business. Nor is there anything new

about holding it in place by a simple catch attached to a post. When the catch is released, the steel plate falls down, into a horizontal position, but this is like the movement of the tail gate on dump trucks in use more than 10 years ago and like the movement of the end gate on station wagons more than 10 years ago; and sealing the edges of the gate with a rubber trim is that like that used, among other places, around the edge of automobile doors, or doorframes, over a period extending back over a period in excess of 10 years from this date.

(l) Affiant further says the patent on which Plaintiff bases its cause of action is based essentially upon the idea of cleaning a dairy barn by washing it out with a flow of water which, in this instance, is caught behind a dam, which can be opened suddenly, sending the water cascading down the floor, and that this idea, and its use, are both ancient, and contain nothing new.

Further, Affiant sayeth not.

/s/ BERNARD A. SAKRAIDA
Bernard A. Sakraida

SUBSCRIBED and SWORN to before me by the said Bernard A. Sakraida on this 22nd day of October, 1969, to certify which witness my hand and seal of office
(SEAL)
/s/ BARBARA J. ARNETT
Notary Public — In and for
El Paso County, Texas.

EXHIBIT E

THE STATE OF OREGON
COUNTY OF JACKSON

BEFORE ME, a Notary Public, in and for said County and State, on this day personally appeared Archie Sharp, who, having been by me first duly sworn, upon his oath deposed and said:

That he resides in Jackson County, Oregon, and that he has been conversant with the dairy business in the western part of the United States, and particularly on the Pacific coast for more than 10 years; and that he has personal knowledge of the facts hereinafter set out.

That a dairy barn for cows

(a) having a smooth, evenly contoured, paved surface as a floor, which provides a walking surface for cows in the dairy barn;

(b) having a drain as a means for draining wash water from an evenly contoured, paved surface, forming the floor of such barn, opening to the top of the floor;

(c) having an evenly contoured surface forming a floor of such barn, and sloping towards such a drain as above referred to, whereby wash water discharged on the floor may be collected and disposed of through the drain;

(d) having multiple rest areas with individual stalls for each cow, but which is disposed at an elevation above the paved surface forming the floor, the stalls being dimensioned so that a cow can comfortabley stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn:

(e) having adjacent or connected feeding areas with feeding troughs with means for discharging feed to the troughs;

(f) having a cow-holding area, a milking area, and a transfer area, all bottomed with the walking surface of the barn;

(g) having a means for washing the floor providing the walking surface in the barn where the said floor bottoms the feeding, holding, milking, and transfer areas, operable to send washwater flowing over the floor with such water washing any cow offal thereon into said drain means, which floor washing means includes means located over a region of the floor which is up-hill from said drain, and operable to disperse the water as a sheet of water over said floor;

(h) having a floor washing means comprised of a water supply disposed above the floor, and arranged whereby said water can be released to flow as a sheet of water thereon;

(i) having a floor washing means as referred to in statements above made, but comprised of a dam

for daming and diverting water adjacent to the barn floor, which dam is operable to send such water as a sheet over the floor toward said drain means;

having all been used in the dairy industry in the United States for years prior to the year 1960. All of such things have been used prior to 1960 at such places as Weed, Lodi, and Bishop, California; and

(j) That a dairy floor-washing means comprised of a dam for damming and collecting water as a pool directly on the floor with such dam being abruptly operable to send the water as a sheet over the floor toward the drain means is not new; nor is there anything new in the idea of the dam being comprised of a steel plate, hinged to a channel iron embedded in the floor, with a rubber seal around the edges, and held by a simple catch attached to a post. The steel plate is a simple plate, obtainable at any iron or steel works, and is already fabricated as a piece of steel plate, needing only to be cut to size. Nor is there anything new in it being hinged to a channel iron embedded in the floor, this being a simple construction long known to anyone in the construction business. Nor is there anything new about holding it in place by a simple catch attached to a post. When the catch is released, the steel plate falls down, into a horizontal position, but this is like the movement of the tail gate on dump trucks in use more than 10 years ago and like the movement of the end gate on station wagons more than 10 years ago; and sealing the edges of the gate with a rubber trim is that like that

used, among other places, around the edge of automobile doors, or doorframes, over a period extending back over a period in excess of 10 years from this date.

Further, Affiant sayeth not.

/s/ ARCHIE SHARP
Archie Sharp

SUBSCRIBED AND SWORN TO before me by the said Archie Sharp on this 30th day of October, 1969 to certify which witness my hand and seal of office.

/s/ RONALD M. JAMES
Notary Public — In and for
(SEAL) Jackson County, Oregon

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[23] JUDGMENT

[Title Omitted in Printing]

Filed: Feb. 19, 1970

Defendant's Motion for Summary Judgment having come on regularly to be heard by the Court on December 22, 1969, with, at the request of Plaintiff, further arguments and consideration thereof on February 11, 1970, and both Plaintiff and Defendant having appeared by their respective attorneys of record, and the Court having fully heard and considered Defendant's Motion for Summary Judgment, and the arguments of counsel with reference thereto, finds:

1. Plaintiff's patent is a combination patent, composed of a number of parts or elements, as set out in said patent.

2. The several component parts or elements of said patent were well known in the dairy business long prior to the date of filing the original application for this patent.

3. Plaintiff, in a "Supplemental Memorandum in Opposition to Defendant's Motion for Summary Judgment" stated it does not deny the patent is made up of a combination of old elements, and further stated it admits all the elements are individually old.

4. The combination of said old elements did not result in anything new and patentable.

5. This case is controlled by the holding and opinion of the Supreme Court of the United States in *Anderson's-Black Rock, Inc. vs. Pavement Salvage Co., Inc.*, opinion dated December 8, 1969.

6. There is no issue as to any material fact.

7. Defendant's Motion for Summary Judgment is well taken, and is granted.

IT IS, THEREFORE, ORDERED, ADJUDGED and DECREED by the Court that Defendant's Motion for Summary Judgment be and it is hereby granted, and further, that Plaintiff take nothing by this its action and Judgment is hereby rendered in favor of the Defendant. It is further ORDERED that Defendant have his costs herein expended.

ENTERED this 19th day of February, 1970.

/s/ ERNEST GUINN
JUDGE

[39] FINDINGS OF FACT AND CONCLUSIONS OF LAW

[Title Omitted in Printing]

Filed: Sep. 23, 1971

FINDINGS OF FACT

1. I find that the "dairy establishment as described in United States Letters Patent 3,223,070 is composed of 13 separate items, as follows:

(a) ". . . a smooth, evenly contoured, paved surface forming a floor providing a walking surface. . ."

(b) ". . . drain means for draining wash water from such floor opening to the top of the floor".

(c) ". . . said smooth, evenly contoured surface which forms such floor sloping toward said drain. . ."

(d) ". . . multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also a smooth pavement. . .".

(e) ". . . which is disposed at an elevation above the paved surface forming the floor. . ."

(f) ". . . said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn. . ."

(g) ". . . said barn further including defined feeding areas having feeding troughs. . ."

(h) ". . . a cow-holding area".

(i) ". . . a milking area."

(j) ". . . a transfer area all bottomed with the walking surface forming said floor in the barn. . ."

(k) ". . . and floor washing means for washing the floor providing the walking surface in the barn where said floor bottom, said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into the said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor."

(l) A tank on a mounting, so that it can be tilted, and the water poured out to cascade on the floor to form a sheet.

(m) A floor-washing means comprising a dam for damming or collecting water as a pool directly on the floor, which such dam abruptly openable to send water cascading as a sheet over the floor towards the drain.

2. I further find that each of the items above-described were not new, but had been used in the dairy business prior to the time the application for the said Gribble patent, made the subject of this action, had been filed in the Patent Office of the United States on

November 5, 1963. This finding is based upon the testimony of Robert B. Price, and upon the following facts in evidence, the first group being taken *from the deposition of Donald Joseph Gribble*, to whom the said patent was issued, and who is now president of AG PRO, INC., to-wit:

(a) He described the, "smooth, evenly contoured paved surface forming a floor providing a walking surface" as having to do with the shape of the top surface of the floor, and that, "we use a small amount of crown, generally", and said, "the contour, as I would interpret it, is the general shape of the surface of the floor."

(b) With respect to the clause, ". . . drain means for draining wash water from such floor opening to the top of the floor", he said, "It can be a graded ditch or a ditch with — arranged like a scuffer, or a ditch covered with a steel door that can be opened to collect the drainage". To the question, "The drain is actually a ditch, isn't it?", he answered, "Yes."

(c) With respect to the clause, "said smooth, contoured surface which forms a floor sloping toward said drain," he admitted this was simply a floor with a small amount of crown sloping toward a ditch.

(d) With respect to the clause, "multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also a smooth pavement", he was asked, "And that's similar to dairy stalls in general, is it not?", to which he answered, "Yes."

(e) With respect to the clause, "which is disposed at an elevation above the paved surface forming the floor", his response was that this was typical dairy construction.

(f) With respect to the clause that, "said stalls being dimensioned so that a cow can comfortably lie or stand in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn," he admitted this is, "typical dairy construction" as to which there are "variations" from one installation to another. He further stated that a lot of this is description which has been common in the dairy business for a long time, but which Gribble included because it was conceived as being necessary to frame the "flush concept".

(g) With respect to the clause, "said barn further including defined feeding areas having feeding troughs", he agreed this is typical dairy construction, and has been used over a long period of time.

(h) With respect to the phrase, "a cow-holding area", he agreed this is typical dairy construction and has been used over a long period of time.

(i) With respect to the phrase, "a milking area", he agreed that dairy barns have always had milking areas.

(j) With respect to the clause, "a transfer area all bottomed with the walking surface forming said floor in the barn", he agreed that dairy barns have generally always had transfer areas.

(k) With respect to the provision that floor washing means for washing the floor providing the walking surface in the barn where said floor bottom, said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into the said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over the floor, he said this means that the various areas (i.e., cow-holding areas, milking areas, transfer area) are joined together so that the water, as it flows down, will move in a uniform sheet and carry all the waste material to the drain means.

(l) Paragraph 2 of this part of the patent merely describes a tank on a mounting, so that it can be tilted, and the water poured out to cascade on the floor to form a sheet. Mr. Gribble said this was not like dumping a tub of water out because of the volumes involved and the means of doing it. However, it is an old idea to put water into a tub, vat or tank which is mounted so that it can be tipped and the water poured out.

(m) The reference to a floor washing means comprising a dam for damming or collecting water as a pool directly on the floor, with such dam abruptly openable to send water cascading as a sheet over the floor towards the drain — Mr. Gribble was asked if that means you have a place that holds water that you can dump out on the floor and it flows down the floor, isn't

that all, to which he replied, "Yes, very rapidly. There are several variations of that tank," and with respect to the item listed under (m) above, he was asked if this did not mean that instead of putting the water in the tub, you have it behind a dam where the doors will open and let it go right on down quick, to which he answered, "Yes, right". He was then asked, "And that's really the gist of the whole thing, isn't it?" to which he answered, "It's the basic concept of manure flush, yes."

3. I find that in Plaintiff's supplemental memorandum in opposition to Defendant's motion for summary judgment filed in this court on the ____ day of January, 1970, it is stated on behalf of Plaintiff:

> "Plaintiff doesn't deny that the patent is made up of a combination of old elements, just like most other patents." (Page 8).

In the same memorandum, it is said:

> "Plaintiff admits that all elements are individually old, but no one prior to the inventors ever combined the elements as called for in the claims."

4. I further find that many of the items going to make up Plaintiff's claim for a patent were disclosed in prior patents, known respectively as the McCornack patent, the Holz patent, the Ingraham patent, the Kreutzer patent, the Bogert patent, and the Luks patent; and that the statements of the Examiner's opinions refusing to issue a patent are true as to all items

there stated to be covered in prior patents or publications.

5. I therefore find as a fact that each and all of the component parts of this patent as listed under the applicant's claims set out in said patent, were old and well-known throughout the dairy industry long prior to the date of the filing of the application for the Gribble patent. I further find that what Mr. Gribble referred to in his deposition as the essence of the patent, to-wit, the manure flush system, was old, various means for flushing manure from dairy barns having been used long before the filing of the application for the Gribble patent, the general idea in that connection being a hard surfaced sloping floor onto which the cows' offal was dropped, and some system of introducing water in sufficient quantities and force onto said floor to wash the offal therefrom, with a ditch or drain to carry the offal so washed away from the barn, either into a manure container or otherwise.

6. I further find that the use of a tank at the upper end of the floor to hold water, which can be suddenly released onto the floor of the dairy barn, is a relatively simple matter. Steel or concrete tanks have been used prior to 1963 as water troughs on dairies. Neither the tank which holds the water, nor the means of releasing the water quickly is new, but embrace tanks and doors which have long been known, and their use in this connection is one that is obvious, and the patent in that respect is lacking in novelty. The patent does not meet the non-obvious requirements of the law.

CONCLUSIONS OF LAW

I find that the decision in this case is controlled by the opinion of the United States Supreme Court in *Anderson's Black Rock, Inc. vs. Pavement Salvage Co., Inc.*, 396 U.S. 57, 24 L.Ed.2d 258. The same finding made by the Supreme Court in that case are applicable here, and changed to fit the circumstances of this case are:

(1) Each of the elements combined in the patent was known in the prior art. It is urged that the distinctive feature of the patent was the tank at the upper end of the dairy barn floor which held the water that could be cascaded onto the floor. However, the making of such a tank, with a door or gate openable in the manner this one was, would not of itself have been patentable. This brings us to the question whether the combination of old elements created a valid combination patent.

(2) All that the Plaintiff has done is to construct several elements known in the prior art in a sequence known in a dairy barn. This may be relevant to commercial success, but not to invention.

(3) The question of invention must turn on whether the combination supplied the key requirement. I conclude that the combination was reasonably obvious to one with ordinary skill in the art. The convenience of putting a tank for water at the upper end of the dairy barn floor, together with the other elements and areas in the dairy barn, though perhaps a satisfactory way of washing the dairy barn floor, did not produce a "new or different function".

(4) A combination of elements may result in an effect greater than the sum of the several effects taken separately but even if the combination here filled a long-felt want and it has enjoyed commercial success, those matters, without invention, will not make patentability.

(5) The patent standard is basically constitutional. Article I, Section 8 of the Constitution . . . that under that power Congress may not "enlarge the patent monopoly without regard to the innovation, advancement, or social benefit gained thereby." Moreover, Congress may not authorize the issuance of patents whose effects are to remove existant knowledge from the public domain, or to restrict free access to materials already available. Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by constitutional command, "must promote the progress of useful arts." This is the standard expressed in the Constitution, and it may not be ignored.

(6) I conclude that while the combination of old elements may have performed a useful function, it added nothing to the nature and quality of dairy barns theretofore used. I further conclude that to those skilled in the art, the use of the old elements in combination was not an invention by the obvious — non-obvious standard. Even though the dairy barn in question attains the posture of a successful venture, more than that is needed for invention.

I further find that the decision in this case is supported by the opinion of the Court of Appeals, Fifth

Circuit, in *Inject-o-Meter Mfg. Co. vs. North Plains Fertilizer & Co., Inc.*, 439 F.2d 1138 (1971), with special reference to what is there said about novelty and non-obviousness.

SIGNED AND ENTERED this 23 day of September, 1971.

/s/ ERNEST GUINN
JUDGE

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[40] FINAL JUDGMENT

[Title Omitted in Printing]

Filed: Sep. 23, 1971

The above styled and numbered action, having come on regularly to be heard on the 13th day of September, 1971, and the respective parties having appeared in person or through their duly constituted officials, and through their respective attorneys of record, and the Court having heard the pleadings, evidence, and argument of counsel, is of the opinion and finds that said Patent No. 3,223,070 held by Plaintiff does not constitute invention, is not patentable, and is not a valid patent, it being a combination patent, all of the elements of which are old in the dairy business, long prior to 1963, and the combination of them as described in the said patent being neither new nor meeting the test of non-obviousness, Defendant is entitled to judgment.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED that Plaintiff's Patent No. 3,223,070, does not constitute invention, is not patentable, and is not a valid patent;

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED, that Plaintiff, AG PRO, INC., take nothing by its action against BERNARD A. SAKRAIDA, the Defendant herein, and that judgment be and it is hereby rendered in favor of Defendant, BERNARD A. SAKRAIDA;

IT IS FURTHER ORDERED that the costs herein be taxed against the Plaintiff, for which Defendant may have his writ of execution.

SIGNED AND ENTERED this 23 day of September, 1971.

/s/ ERNEST GUINN
JUDGE

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[42] TRANSCRIPT OF PROCEEDINGS

[Title Omitted in Printing]

Filed: Dec. 29, 1971

[3] BE IT REMEMBERED that on the 13th day of September, 1971, the above entitled and numbered cause came on for hearing before the Honorable Ernest Guinn, Judge of said Court:

WHEREUPON the following proceedings were had, to-wit:

THE COURT:
Gentlemen have you all discussed the procedure you would like to follow today? The Court feels the evidence that was received before the hearing could be considered as being admitted in this trial and then each party may supplement it by any additional evidence they wish to present.

MR. KOLISCH:
That is satisfactory with the plaintiff.

MR. HULSE:
It is satisfactory to us.

* * * *

[6] MR. KOLISCH:
. . . We will show that a problem had existed for literally thousands of years. As the Court knows, this goes back to the time of Hercules. It was his fifth task to wash the Augean stables. . .

* * * *

[9] DONALD JOSEPH GRIBBLE
having been first duly sworn on oath to tell the truth, the whole [10] truth, and nothing but the truth, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KOLISCH:

Q Please state your name and address.

A Donald Joseph Gribble, Hixson, Tennessee.

Q What is your occupation, Mr. Gribble?

A I am an engineer.

Q What is your present position in connection with the plaintiff?

A I am the President of the Ag Pro Corporation and I work under the title of Director of Engineering.

Q Does Ag Pro, the plaintiff in this case own the patent in suit, the Gribble invented patent?

A Yes, the patents were assigned to Ag Pro.

Q Does Ag Pro own the right, also, to bring this suit for patent infringement?

A Yes. I am not qualified to say legally but they have all rights to the patent.

Q They own all the rights?

A Yes.

Q As well as all rights to enforce it, is that correct?

A Yes.

Q Now you are the co-inventor of the patent in suit, isn't that correct?

A Yes.

Q Will you give us, briefly, your educational background?

[11] A I have a degree in agricultural engineering from Oregon State University.

Q When did you obtain that?

A In 1957.

Q And give us your business experience.

A Well, I was born and raised on a dairy, if you want to go back that far, and after college and com-

pleting a three session in the service I went to work with my father in a company called the Gribble Construction Company in Port Arther, Oregon which later evolved into Ag Pro Corporation. Since that time I have acted in an engineering capacity and a management capacity for Ag Pro Corporation.

Q Will you relate to us as fully as you can what the circumstances were surrounding your making the invention in suit? In other words take us back to the time you first started on this.

A We began construction of the Sweet (PHONETIC) Dairy in Oregon in the spring of 1961 and this is the first dairy where we utilized the flush system as it is described in our patents. Gribble Construction Company acted as the general contractors-builders. We intended, initially, to experiment with hydraulic methods of waste removal but nothing specific. After the dairy was completed or the first half of it was completed the cows were moved in and we began these experiments which consisted of cleaning in conventional ways with high pressure hoses. We tried —

Q — let me interrupt you for a minute. As of that time [12] — you are now talking about 1961-'62?

A Yes.

Q What were the best conventional means that you knew of for cleaning dairy floors at that time?

A Well, tractor scraping and hosing has, for many years, been the standard accepted way to clean dairies.

Q All right. Continue with your experiments.

A The experiments consisted of high pressure hosing with relatively high volumes. Work with permanently fixed sprinkler systems similar to lawn sprinklers where the individual sprinklers were

strategically located to try to clean up areas of the floor, and then the use of fairly high volume flow rates from an irrigation pump where we introduced pipe to have a distribution of 500 to 600 gallons per minute on the floor and the system that is covered by the patent which introduces dams and reservoirs in the process to obtain a surge or tidal wave effect. As a result of the — of these four wasys we experimented with, the surge or tidal wave type of system evolved as much more efficient than any of the others in terms of time required to get the cleaning done, total volume of water used and labor and in initial investment. It was a very simple device to install as opposed to piping and valving required for say, the sprinkler system or the big volume pumps and system required for the high-flow rate irrigation type of a system.

Q And approximately what date had you completed your experiments and had you stopped testing it and were satisfied [13] that you had an operatable system which would be made available to people who wanted to purchase it?

A We had a pilot model, definitely better than any of the other things we were working with, in the spring or early summer of 1962.

Q And then you — you had this pilot model — this is the one at Sixes, Oregon?

A Yes.

Q That finally proved out and then what did you do?

A We proceeded with the second half of the construction of the dairy and installed this sytem in the entire dairy.

Q And tell us about the initial reception which you had when you tried to present this to dairymen prior to your having built the successful pilot model?

A Well, most people didn't think it would work. It seemed too unbelievable, and this is still the reaction. If we describe this same thing verbally to a dairymen who has not seen or even if we show pictures and slides of it being done, it is difficult for them to believe the kind of a job that it is possible to obtain. This system, when it is properly laid out will literally clean up thousands and thousands of square feet of floor area with virtually zero labor, in just a few minutes — actually just a few seconds.

Q After you had completed the first successful installation was this then shown to other dairymen for the purposes of [14] selling systems?

A The first sale of the system was made in the spring of 1963 to the Pineyhill-West Dairy.

Q This is in California?

A Yes, in California.

Q And tell us now about the reception by the dairy industry of your patented system?

A Very enthusiastic. As a result of this early work and the formation of Ag Pro we have built a business that is based on consultation and services to the dairy industry where we specialize in a design and lay-out of large commercial dairy facilities. We have worked all over the United States, now, in this capacity in the nine years since that time and have seventy some odd installations that we have designed and installed of this type. We have worked outside of the United States in Japan and Hawaii. We have installed systems for various of the educational institutions including Oregon State College, the University of New Mexico at Las Cruces, the University of North Carolina at Raleigh and we have a system under construction at the University of Georgia at Athens.

Q And just by way of example, can you give us the name of some of your licensees?

A Well, the licensees include Dawn Dairy in California, the Ralston Purina Company of St. Louis, the Dean Foods Company of Rockford, Illinois and many many others. There is 60 or 70 of them.

Q And roughly what are the size of these operations and [15] the number of cows or however you measure this type of operation?

A Well, the trend in the dairy industry is toward larger and larger units and of course we specialize in working with large commercial dairies so I would say the range would be from perhaps 200 cows to 2,000 cows.

Q Would you tell us what your standard licensing fee is? Do you have a license program and what is it?

A Yes. The standard fee is $1,500 for the facility plus $1.00 per cow of the basic design.

Q And how — have you granted this license to anyone who wanted it? In other words has this been made avilable to those who wished it?

A Yes, anyone.

Q I will hand you a roadmap with certain indications on it. I will ask you to identify this — would you mark it as plaintiff's exhibit one?

(Whereupon Plaintiff's Exhibit One was marked for Identification)

Q Can you identify that?

A This mpa indicates the location of the various dairies that I and my associates have worked on in a design capacity in the last nine years since the formation of Ag Pro, which have been issued licenses.

Q You have marked those yourself in there in accordance [16] —

A — yes. Mr. Kolisch, one other point I should make is that since the time this Court ruled against us in the previous hearing we have refrained from seeking any legal action against anyone else and in some cases some of these should be licensed.

Q But these are all installations in accordance with your patent?

A Yes, and installations I worked on. It does not include installations that other people built outside.

Q They are all installations under which you — that is, Ag Pro installed —

A — yes.

Q Or built?

A Yes.

Q Or designed?

A Yes.

Q How well do you know Mr. Sakraida, the defendant — excuse me, I will offer plaintiff's exhibit one.

THE COURT:

All right, It will be admitted.

Q How long have you known the defendant, Mr. Sakraida?

A My first contact with Mr. Sakraida was on the Dawn Dairy job at Bakersfield, California and this began early in 1966.

Q In what capacity was he involved in that job?

A He was the general contractor for the construction of that dairy which is a 1,300 cow dairy operation.

[17] Q And what was your connection with that job?

A I was the designer of the dairy and supplied the plans and construction details.

Q Specifically directing your attention to the patented manure flush system, what type of information did you make available to Mr. Sakraida in connection with the Dawn Dairy job?

A Well, we made all of the information concerning the patent, plus the data we had gathered on volume, slopes, data that doesn't appear in the patent but is required for proper operation of the system. We supplied shop drawings and construction drawings for the various pieces of equipment that were involved, such as the water dams.

Q I am going to show you some copies of letters and ask you to identify them.

A Plaintiff's exhibit two, a letter dated May 19, 1965 addressed to Ag Pro from Charles Shoemaker of Dawn Dairy.

Plaintiff's exhibit three is a letter dated March 16, 1966 from Charles Shoemaker of Dawn Dairy to Ag Pro.

Plaintiff's exhibit four, a letter dated April 4, 1966 from Joe Gribble to Charles Shoemaker, Dawn Dairy.

Plaintiff's exhibit five, a letter dated July 9, 1966 from Joe Gribble to Bud Sakraida, Western States Construction Company with attached drawings.

Q Would you look at these exhibits two, three, four and five?

[18] A These are zerox copies of letters from the Ag Pro files and they describe the circumstances leading up to the commissioning of us to design the Dawn Dairy and working with Mr. Sakraida and delivering certain plans and drawings to him.

Q In connection with exhibit five, there is a penciled notation at the end of the letter. Will you read it and tell us who put it there and what it refers to?

A There is a note at the bottom, "These units were subsequently supplied by Ag Pro. The drawings were never returned." And it is initially by me, D. J. G. It refers to the water dams and paraphernalia for the flush system as described on these drawings. We supplied the Dawn Dairy and Mr. Sakraida these drawings to construct these items but they elected, during the course of construction, not to build them but to buy them from Ag Pro and we subsequently supplied the water dams and paraphernalia for the flush system.

Q Are you familiar with the Jessup Dairy in Bakersfield, California?

A Yes.

Q Will you tell us, with respect to this lawsuit, what your knowledge is of the Jessup Dairy?

A Well, the Jessup Dairy is similar to the Dawn Dairy in that it has housing areas and feeding areas and holding areas for the cattle and it contains a manure flush clean up system that is substantially identical to that of the Dawn Dairy.

[19] Q What were the circumstances surrounding the construction of the Jessup Dairy, and particularly I would like for you to tell me what you know as far as Mr. Sakraida's involvement with Jessup.

A Mr. Sakraida, through a friend of his, Mr. Al Gandt supplied the drawings and plans for the Jessup Dairy and Mr. Sakraida subsequently acted as the general contractor in the construction of the Jessup Dairy.

* * * *

[26] MR. KOLISCH:

We also have these two publications, plaintiff's exhibit seven, the article in Western Dairy Journal.

THE COURT:

What is the purpose of those?

MR. KOLISCH:

Those are to show commercial acceptance of the invention. In other words these are publications in the industry.

THE COURT:

All right. Mr. Hulse?

MR. HULSE:

If the Court please, we object to those; those [27] are magazine articles, insofar as they contain any statement of fact, they are hearsay as far as this defendant is concerned. Insofar as they express an opinion or trying to offer an opinion of somebody who is not here, who cannot testify —

THE COURT:

— I am inclined to think so. I will reserve my ruling and Mr. Gribble can testify to any of that that he knows of his own knowledge. I will reserve my ruling on that. If he wants to — if he wants to verify any of it he can. He can do that, but as to people not here to be examined, and their opinions, we will see. Go ahead.

MR. KOLISCH:

Your Honor, these are being offered merely to show there were articles written about the installation in

recognized magazines which have a circulation throughout the area and I will —

THE COURT:

— I think you can testify to that and offer that without the content; that they were written up. I don't think there is any question about that, that they were written up in detail in these magazine articles of those dates but there wouldn't be anything in there that would be binding on the defendant and — he wouldn't have an opportunity to question him on it. The Court will allow you to state these articles about your patent and we will let it go at that for the time being.

MR. KOLISCH:

Let the record show that the plaintiff has offered as exhibit seven an article in Western Dairy Journal entitled "The Way You'll Milk Tomorrow and The Way You'll Clean Up" dated [28] May, 1964. Perhaps I can ask him a couple of questions?

THE COURT:

All right, do that.

Q (MR. KOLISCH) Are you familiar with the article in plaintiff's exhibit seven?

A Yes.

Q Is that article about the patent manure flush system?

A Yes, the second half of the article, "And The Way You'll Clean Up" — the second half of this refers specifically to the patented system and the installation at the Pinyhill-West Dairy in Calistoga, California.

Q And this magazine "Western Dairy Journal", to your knowledge what is its distribution?

A Its primary distribution is in three western states, Oregon, Washington and California, although progressive dairymen in other states do subscribe to the magazine.

MR. KOLISCH:
I will renew my offer.

THE COURT:
All right. Do you want to examine him about the second one?

Q (MR. KOLISCH) In "Dairymen", September, 1967, is there an article in there about the patented system?

A Yes, the cover sheet on this particular publication has pictures of the manure flush system in operation and on pages 12 and 13 there is a feature article, the title of which is "Biltmore Farms Solve Labor Problems With Automation", and the sub-title, "Flush System in Action".

[29] Q What dairy is being described in this article?

A This is the Biltmore Farms Dairy at Asheville, North Carolina.

Q Do you know what the distribution of "The Sunbelt Dairymen" is?

A "The Sunbelt Dairymen" is distributed in the southern states from Texas to the east coast.

Q Do you know what the circumstances were surrounding the preparation of these articles in these two magazines? How did this come about?

A The Biltmore Dairy was — represented quite a new and different way of handling the cows and cleaning up the waste for the dairy and as a consequence there was an article written on it.

Q What about "The Western Dairy Journal"?

A The same thing. Pinyhill-West Dairy represented a new departure from conventional ways of handling cattle and cleaning up waste, as indicated in the title, "The Way You'll Milk Tomorrow . . ." and the article was written about it.

MR. KOLISCH:
Your Honor I would now like to show a movie which will be not more than about 10 or 12 minutes.

THE COURT:
Mr. Carney, will you turn the lights off?

Q When you are ready to go, generally explain to the Court what you are going to show and then, as we go along you can explain it.

[30] A This short film describes the conditional ways of cleaning up manure in dairy barns and other animal facilities but specifically related to dairy barns in this case. It was taken at the Hall Brothers Dairy in Montgomery. A portion was taken at Reliance Dairy in Bakersfield, California, a dairy similar in size, I believe, 1,500 or 1,600 cows.

Q Now the first portion will be with respect to the standard, usual ways of cleaning up?

A Yes, the first-half of the film shows shovel work and work with the scoopmobiles and manure spreaders or trucks and conventional ways of handling manure which still are conventional. This film, this part of the film strip was taken just a few days ago, 10 days ago.

THE COURT:
All right.

A The second part refers specifically to our manure flush system and was taken at the Hall Brothers installation, which is a recent installation and shows quite graphically the results we get.

THE COURT:

All right.

A This boy is preparing to do some shovel work. The normal ways of handling manure at the time of our invention were working with shovels or brooms of this type and using high pressure hoses, using tractors to scrape with or in some cases mechanical barn cleaners, although in big days of this type mechanical barn cleaners never worked out well at all. An interesting feature here [31] is that necessity of getting the cows out of the way to do the cleaning, if you are cleaning in this way. It is a very tedious and time consuming job. This photo now was taken at Reliance Dairies near Delano, California. This shows a large truck in the background, the manure being handled in dry form or simply dried. This big scoopmobile is used to clean up the floors where the cows eat and sleep. In this large area this equipment is used full-time in manure clean up and manure handling. A machine of the type of this scoopmobile would rent for something like $20.00 an hour. Again, illustrating a very slow and tedious and time consuming job to handle the waste and manure from the dairy. A truck would haul the accumulated waste out to a field and stock pile it or it would be distributed in manure spreaders.

Now we are in the main dairy building and this is a relatively new and modern dairy. This is in the milking room — not the machine room but the milktank room and here you are in one of the milking areas. This

is a boy in the left hand corner hosing this parlor down. This is very tedious and time consuming. To clean up one of these parlors properly would require approximately an hour and a half. The hose the boy is using is very high volume and high pressure and would probably be dispensing something like 30 to 40 gallons per minute. In an hour this would represent perhaps 2,000 gallons of water. It is very tedious and slow work. Notice also where the hose strikes the ground you get a good cleaning action but a few feet away from the hose, where the low volume water [32] is running on the ground you don't have much cleaning. The boy literally spent hours at this task which has to be done twice daily in a typical dairy.

Q Mr. Gribble, do they use these hoses in the other portions of the dairy? You showed earlier where they were using the scoopmobile?

A Generally speaking, no. The hoses would be used only in the milking area and cow housing or holding area adjacent. This is due to sanitary requirements.

We are now at Hall Brothers Dairy near Montgomery, Alabama. This is a 1,200 cattle layout designed to be flushed cleaned in its entirety, including the milking parlors, holding area, housing area, feeding area and transfer lanes. This is a picture of the parlor. There is a girl in there milking and you will see her in the lower left hand corner. The girl is about to wash the milking parlor with these flush tanks of our design. She has just released the flush tanks and it is washing that side of the parlor and in a moment she will release the other tank. The girl has just released 600 gallons of water to do approximately the same job the boy in the other picture was doing which required

many minutes. The girl didn't even leave the pit or stop milking to accomplish this clean up job. All of the water from the parlor flush clean up and from the hose that the girl had in her hand is accumulated on the floor of the holding pen behind this hinged steel water dam located at the rear. This accumulated water will be used a little later to clean up [33] the housing and feeding area. Understand that this is waste water that has already been used one time. This shows a general view from the rear of the holding pen forward towards the parlors. The floor slopes in this direction so all of the flush water ends up contained in this tank behind the hinged steel water dam that that cow is standing by. This crowding device here moves the cows forward as the holding area fills with water so they don't stand in the accumulated waste water. This shows a general view of the housing and feeding area and this shows the stations where the cows rest. Coming on around it shows one of the lanes with an accumulation of waste on the floor in a feeding building. Here again is a general shot showing the transfer lanes. Now this milking operator is coming down to get his next group of cows. This is a 100 cow group. He opens this gate. Notice the gate has a steel plate along the base which will divert the fresh water down this particular lane. You can see the accumulated waste on the floor. The cows are waiting in the transfer lane to go into the milking parlor. This is a shot of the low end of the cow housing and feeding lane and it shows the accumulation where the flush water is collecting. This steel plate is over a ditch. The steel plate can be raised or lowered to allow cows to pass over it. This shot is taken from the low end of the cow housing and feeding area looking up hill. These are shots of the dirty lane

and you can see the manure on the floor. Again, there is quite an accumulation of manure on the floor and that cow is adding to it right there.

[34] This is a general view of one of the cows in the lane. Now the accumulated waste water is being released to accomplish the flush and the clean up is complete. The advancing face of this surge of water is able to dislodge and carry the waste water along a great distance, several hundred feet. An interesting point there is the ability of this system to clean up with the cows in place. You notice it is washing right around their feet. The water that follows the initial abrupt release gets the floor quite clean. There is literally one hundred per cent removal of the waste and the debris from the floors when these systems are layed out properly, in terms of grade and slope and volumes of water. The alley we are looking down is approximately 400 feet long and will average four feet wide, and this alley was cleaned up literally in the time we watched this film; not more than one or two minutes. There are no scoopmobiles involved in the job; no boys walking around for hours at a time with hoses. The system is relatively inexpensive to install and requires only the proper grade and installation. The system is quite conservative of water in that it reuses already wasted water. That is the end of the film.

MR. KOLISCH:

I will offer this film as plaintiff's exhibit nine.

THE COURT:

All right.

Q (MR. KOLISCH) With respect to that last show-

ing of the cleaning which you said took a matter of what, a couple of minutes to clean this alley?

[35] A Yes.

Q Do you have any estimates from your experience as to how long it would take to do a comparable job with the known methods of cleaning barn floors?

A Well, most people would not do a comparable job because that would involve hosing after the scraping. A feature of our system is the extreme cleanliness we are able to maintain. Generally the housing and feeding areas shown in the last portions of the reel would be only tractor scraped, which leaves a thin film of deposited waste on the floor, and to get a comparable job you would have to tractor scrape, followed by hosing, which would be a very long and tedious job. I would say four or five hours of work would be involved to clean up a comparable area in a like manner.

* * * *

[37] CROSS EXAMINATION

BY MR. HULSE:

Q Mr. Gribble, your counsel went down each clause of claim one of your patent with you and asked you if each one of those elements as described there were not to be found in the Jessup Dairy at Bakersfield, California and I believed you answered each one of them is to be found there.

A Yes, sir.

Q And do you claim that you have a patent on each one of those elements that are listed there in claim one of this patent?

A No, sir. The patent hinges around the manure flush system and its equipment.

Q Each one of those elements of the flush system is old in the dairy business, long before 1963, wasn't it?

A Yes, sir.

Q And you so answered when I took your deposition some time last year. That is true, isn't it?

A Yes, but I hate to make a blanket statement for every- [38] thing.

Q I am talking about each and every one of those elements as described in claim one until you get down to where you talk about the nature of the flush system — until you get down talking about a pool and dam, everything else before that is old, isn't it?

A Yes, sir, descriptive literature to frame the patent system.

Q And you don't claim that because they have these holding pens and rest pens and the place where the cows stand while she is being milked and all that sort of thing, you don't claim you have a patent on that that gives you any exclusive rights to those, do you?

A No sir but they are essential just to frame the situation. The cow is essential to produce the waste to be cleaned up.

Q And the great problem in the dairy business about getting rid of manure if they use any kind of a flush system is the disposal, not only of the manure but of the water, isn't it?

A Yes, but this is true of any system.

Q I say, whenever you use water that is one of the big problems, is disposing of the water, isn't it?

A Yes, sir.

Q And that is one of the problems of the system where you use a tank that holds a certain amount of water?

These tanks on dairies you built, what do they hold, 2,000 gallons?

[39] A It varies with the design requirements.

Q And the size of the dairy?

A Right.

Q And — what size tanks have you built, by gallons?

A From 300 to 4,000 or 5,000 gallons.

* * * *

[41] Q This matter of washing off dairy barn floors is old in the dairy business, is it not?

A Using hoses and those methods are.

Q They have used the hose system, have they not?

A Yes.

Q They have used it where it drains from a tank or someplace by the means of pipes, have they not?

A Pipes and valves to introduce water in spray form, you mean?

Q Either in quantities or in sprays, they have done it [42] both ways?

A Yes, with the pipes.

Q They have done it by spray or shower systems?

A Sprinklers, yes.

Q They have done it by introducing water onto the floor of the dairy barn from a nearby creek or some other river or whatever they had handy, have they not?

A I suppose. I am not familiar with that.

Q Have you not seen any of those in operation where they have been used?

A Where a creek was diverted into a dairy barn?

Q Yes.

A No.

Q You have heard of it?

A Just now.

Q Your counsel just now mentioned Hercules this morning back in Greek mythology?

A Sir, I don't go to church as often as my counsel.

Q I see. Anyway you heard of that?

A Yes.

Q And the only thing about this patent you claim here is you have a group of things that are all old in the business except when you come down to how the water is introduced into the floor of the dairy barn and it is the method of introducing the water to the floor of the dairy barn that you claim to be unique, [43] is it not?

A It is one of the key elements of our patented system, yes.

Q And — but it is true that water has been introduced to the floor of the dairy barn to wash them off by various and sundry means over many years, back long prior to 1963?

A Yes.

Q You suggested out there the use of pipe, did you not?

A Not at Dawn. In my early discussion with Mr. Sakraida I described some experimenting we did at the Sweet Dairy in Oregon.

Q At the Sweet Dairy in Oregon?

A Yes.

Q Had you used pipes up there?

A This was one of the systems that we experimented with. We experimented with sprinklers and we experimented with hoses.

Q I believe you have built into the Sweet Dairy, by least the spring of 1962, a tank with an opening to let

this water cascade over the floor such as you claim in your patent?

A On an experimental basis, yes, we had begun that type of work.

Q You had actually built one that was being used in 1962?

A Yes.

Q And this was — was it written up in magazines or papers.

A No, sir.

* * * *

[45] Q Now these tanks that this water is stored in where it is collected, as you described it in your patent, is a pool, and those tanks also can be used, at least in some places they are used as a water trough, are they not?

A Yes, sir.

Q And in fact they are the same kind of metal — either metal or cement water trough like has been — long been used in the dairy business, are they not?

A Yes, with the exception of the paraphernalia to obtain the abrupt release of the contents of the tank.

Q And that is true and what is described in your patent here is the — I believe you call it a gate?

A Or water dam, hinged water dam.

Q That consisted merely of a — is described as a steel sheet that is hinged in the floor with a latch up at the top so that the latch can be knocked loose and this gate will fall down and the water will rush out?

A This is the description.

Q That is the description of it, isn't it?

[46] A Yes.

Q Is that the way you actually make them and build them?

A Sir?

Q Is that the way you actually make them and build them? Like I have described it?

A Yes sir, with refinements for mounting it in the concrete and other requirements.

Q But all it took, actually, was this piece of sheet steel with the hinge that was placed into the floor there at the opening of the tank and the latch at the top to hold it, that is what it consists of?

A This is one of the ways of obtaining an abrupt release of water.

Q And you don't claim there is anything too imaginative about this dam or gate, do you, and the way it is hinged into the floor and the way this latch is up there at the top to hold it and open it?

A Well, Mr. Hulse, you should have been an engineer. You grasp these things in a second. It took us months to conceive and develop it. Yes, there was a good bit of thought and time and energy and trial and error type work that went into the development of this system as it evolved.

Q Well, a hinged gate, there is nothing new about that, is there?

A No, sir.

[47] Q Generally speaking, for use?

A You mean like a gate to a garden or something like that?

Q I am talking about this gate or dam, if you want to call it a dam that has a hinge on it that falls down and lets something out.

A I have never seen a gate hinged in that manner.

Q Well, it is very similar to the ones on many of

these old dump trucks you have had around here for the last thirty years, isn't it?

A No, they hinge at the top so the gravel can run out.

Q Some of them hinge at the bottom, don't they? Haven't you seen any of them hinge at the bottom where the gate falls down?

A Yes.

Q It doesn't raise up, it falls down?

A I have — we never thought of using the dump truck body as a flushing tank. I have never seen it used in that way.

Q You never saw it holding water, in other words?

A No.

Q But the gate, essentially operates the same way as those on the dump truck where they hinge at the bottom?

A Essentially the same way.

Q Those things have been in existence for many many years, long before 1963, haven't they?

A Yes, sir.

Q Your patent also described another method that I don't [48] believe you have mentioned here and I suppose it is because maybe it isn't really used but under claim two you have a tank or a vat or tub or something of the sort in which water can be put and it is built — there are pivots so it can be tilted?

A Yes, sir.

Q And have you actually used that any?

A Yes, sir.

Q And where do you use that?

A At the Sweet Ranch in Oregon and at the Jack Daley Ranch in California.

Q You actually use these things?

A And at the Oakdale Farm which is known as Hollandale (PHONETIC).

Q Now there is nothing to the idea of this thing other than the idea of having a tank or vat mounted on a frame so that these pivots can be put to the side of it so it can be swung and dumped; that is all it is?

A That is basically how it works.

Q That is not a new idea, is it?

A There were elements I considered new at the time. We built those devices so that they would work automatically by shaping the end section of the tank in such a way that as it filled the tank became overbalanced and would rotate and dump, and then it was counter-weighted in such a way that it would set back up and we introduced water at a controlled rate so we could obtain an [49] automatic flush every four hours or six hours or whatever rate we wanted it to be introduced.

Q Is any of that described in the patent?

A Yes. That is a basic description of the tank.

Q Do you have it in claim two? Is it recited in claim two, those refinements you were just talking about?

A The illustration of the tank in the patent shows this construction.

Q But you will agree, will you not, there have been many vats or tanks built in the past, long prior to 1963, that worked on this pivot principal where you fill it with something that flows, liquid and simply tilt it on this pivot to dump it out; that has long been in use, has it not?

A For what use?

Q For dumping?

A I can't think of any installation. I have never seen one.

Q Well, I don't know whether you have ever seen one but probably you have seen a picture of a converter in a Bessemer steel furnace, such as in a steel mill where it is filled with molten metal and it can be dumped?

A Yes.

Q That has been in use for a hundred years, hasn't it?

A Yes, sir.

Q It was in use long before that, back in Roman times [50] when they made those things up on top of a fort and put hot oil and water in them and they would dump it out on the enemy when they approached.

A I am afraid you are back in the Bible again.

Q I am not trying to get back to the Bible. We will stick to the secular. You have heard of that, haven't you?

A Of the Romans, no sir, I haven't heard of that.

Q Too far back, is it?

Anyway, you do know about the Bessemer principle.

A That would be similar, but of course Bessemer is not used for an abrupt release of steel or anything like that.

MR. HULSE:

I believe that is all, if the Court please.

THE COURT:

Do you have anymore questions at this time?

RE-DIRECT EXAMINATION

BY MR. KOLISCH:

Q In your experience and knowledge did you ever

know of a use of water in an accumulation in a dam, whether it is behind a dam or in a tank, in a dairy or similar establishment which could be released suddenly for purposes of washing?

A No, Mr. Kolisch, we did not know of such a use. If I had known of such at the time we developed this system we certainly would not have gone tc the expense of getting patents and the trouble and trials we have gone through.

Q And since 1963 have you ever found a single instance of such use in a dairy any place?

[51] A In the travels I have done since that time, and they have been extensive — last year I travelled 90,000 miles in the capacity of designer, as a consulting service to the dairy industry, and I have not found a single installation that was in use prior to our initial work that anticipated that work.

Q The initial work you did, you are referring to the work at Sweet's, and this was experimental in nature?

A Yes.

* * * *

[52] ROBERT B. PRICE, JR.

having been first duly sworn on oath to tell the truth, the whole truth, and nothing but the truth, testified as follows, to-wit:

[53] DIRECT EXAMINATION

BY MR. HULSE:

Q Will you state your name please?

A Robert B. Price, Jr.

Q And where do you live, Mr. Price?

A I live at 7345 Northloop Drive, El Paso.
Q How long have you lived in El Paso, Texas?
A All my life.
Q And in what business are you engaged?
A I am in the milk production business, primarily.
Q How long have you been engaged in that business?
A Actively since I graduated from college in 1949.
Q And from what college did you graduate, then?
A That was the University of Wisconsin, the post graduate. My primary college education was at Texas A. & M.
Q Did you graduate from Texas A. & M.?
A Yes, sir.
Q Followed by how much time at the University of Wisconsin in post graduate work?
A One year post graduate work.
Q And I will ask you whether or not you individually or through a corporation operate a dairy in El Paso, Texas?
A Yes, sir.
Q And what is the dairy's name?
A Price's Producers, Inc., doing business as Price's [54] El Paso Dairy.
Q And is that located in El Paso County, Texas?
A Yes sir, at the same address where I live.
Q And just for the purpose of indicating whether it is a small or large operation in dairy terms would you say it is small or a large dairy?
A It would be a substantially large dairy.
Q And how many years have you been engaged in the business of producing milk through dairies?
A Going on 22 years.
Q I will ask you whether or not you have had occasion during that time to become familiar with the dairy business in the United States?

A I feel that I have, yes sir.
Q I will ask you, have you had at your dairy cattle that you show at various and sundry cattle shows?
A Yes, sir. We do show cattle.
Q Over various parts of the United States?
A You might say nationally, yes.
Q Have you had occasion to visit other dairies over the United States so as to be familiar with dairies generally?
A I have visited quite a few dairies.
Q I will ask you whether or not you are familiar both from what you know from your own dairy here in El Paso County, Texas and from other dairies you have seen, with the kind of dairy [55] barn installations that were used, at least in places in this country prior to 1963?
A Yes, sir.
Q I want to ask you, Mr. Price, about the various and sundry elements as they are set out in a patent which is described as being patent number 3,223,070 granted to Donald Joseph Gribble and Henry E. Bennett on December 14, 1965.

I want to ask you about some of the elements that are set out in this patent and with respect to each one of them I will ask you as to whether or not the items described there in the dairy barns had been in use prior to 1963 in the dairy business and the first item is — says a dairy barn for cows and the like, including a smooth evenly contoured paved surface forming a floor providing a walking surface for cows in the barn. I will ask you whether or not — what we have described there — what I have read to you was used in the dairy business prior to 1963?

A I think as a general description of a barn floor this would adequately fit.

Q And specifically had they or not been in use in the dairy industry prior to 1963?

A Yes, sir.

Q Do you have any idea how far back floors of that kind have been used in dairy barns?

A Well, of course even prior to 1963 for a good many years a smooth concrete floor had been required to produce grade [56] A milk by the United States Public Health Service.

Q And the next item is a drain means for draining wash water from such floor opening to the top of the floor. Are you familiar with a drain such as described in that clause I have just read to you?

A Well, every barn floor would have to have a drain because you have to make a provision for drainage to qualify as a grade A producer, yes sir.

Q I will ask you specifically whether a drain as described in the clause I just read to you was in common use in the dairy business and dairy barns prior to 1963?

A Definitely, yes sir.

Q And the next item is ". . . said smooth, evenly contoured surface which forms such floor sloping towards said drain means whereby wash water discharged on the floor may be collected and disposed of through said drain means . . ."

Does that describe a floor of a barn such as was in use prior to 1963 or not?

A Yes, sir. This would apply to our own barn for many years.

Q For many years? How far back would you say?

A Back to — well, the original El Paso Dairy was

built in 1911 and had this very provision, same provision.

Q And the next item, ". . . said barn further including multiple rest areas with individual stalls for each cow and with [57] each of said stalls having a bottom which is also of smooth pavement. . . ."

Was that in use or not in the dairy barns prior to 1963?

A It was in many parts of the country, primarily in the Northern part of the country.

Q And were you familiar with — from having seen them?

A Oh, yes, I have worked in barns of that type.

Q And this is all prior to 1963?

A Yes sir.

Q And then it continues, this is all one long sentence and I have broken it down into parts, it continues with the next clause, ". . . but which is disposed at an elevation above the paved surface forming the floor . . ."

Was that also in use in the dairy barn prior to 1963?

A I don't quite follow that sentence.

Q Let me go back and pick up the clause immediately ahead of that because I guess they are tied together: ". . . including multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also of smooth pavement, but which is disposed at an elevation above the paved surface forming the floor . . ."

A Oh, yes, yeah.

Q Was that in use in the dairy industry before 1963?

A Yes, sir.

Q And then it continues: ". . . said stalls being [58] dimensioned so that a cow can comfortably stand or lie

in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn . . ." I will ask you whether or not that was in use in dairy barns prior to 1963?

A Yes, sir.

Q And it continues: ". . . said barn further including the defined feeding areas having feeding troughs with means for discharging feed to the troughs . . ." Was that used in dairy barns prior to 1963?

A Yes, sir.

Q It was used?

A Yes, sir.

Q Then it says: ". . . a cow holding area . . ." were those in use or not prior to 1963?

A Oh, yes.

Q Did you find them in all dairy barns?

A Most dairy barns would have a cow holding area.

Q The next one: ". . . a milking area . . ." Did you find those before 1963?

A Very definitely, yes sir.

Q And the next item: ". . . and a transfer area all bottomed with the walking surface forming said floor in the barn . . ." Did you find those prior to 1963?

A Well, depending on what is meant by a transfer area. If it is the area between the holding area and the milking area, [59] certainly, those have existed before that time, yes sir.

Q ". . . and floor-washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor-washing means including means located over a region of said

floor which is up hill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor . . ." Were you familiar with anything that fits that description?

A I hadn't seen or used prior to 1963 a holding device but as far as the use of flood water, yes, we have used that ourselves to replace the holding device, a number of high pressure water hoses and of course I have also seen and also seen pictures of operations where water was diverted, natural flowing water was diverted from a stream, natural stream through a barn to wash in a sheet of water, to wash the offal.

Q I will ask you whether or not prior to 1963, was the washing with water of the floors of dairy barns in common usage and practice in this country?

A Most definitely, yes sir.

Q And I will ask you whether there were several different means of introducing water onto the dairy barn floor in order to wash it?

[60] A Yes.

Q Could you tell us what some of those means were?

A Well, as I said, by hose, by flowing sheets of water such as diversion of a stream, and in colder climates, use of lime to sprinkle on the manure where the dairymen didn't want to wash offal away because of the coldness.

Q Do you know whether or not it has also been done by the use of putting the water on the dairy barn floor through pipes, either through the end of the pipe or through perforations that sprinkled it or sprayed it?

A Oh, yes.

Q Have steel tanks and concrete tanks been used in the dairy business prior to 1963 as water troughs?

A For many years, yes sir.

Q And some of those are, I assume, would be sizable? What size tanks, in gallons, would you say you knew have been used as water troughs, either steel or concrete?

A I would say holding from 100 to 500 gallons.

MR. HULSE:

I believe that is all.

Your witness, Mr. Kolisch.

CROSS EXAMINATION

BY MR. KOLISCH:

Q Mr. Price, I believe you said that you had seen or heard of the use of water from a stream to wash the floor of the dairy barn?

[61] A Yes, sir.

Q Would you describe for us how that took place and where?

A Yes, I would be happy to. I have an associate in our business, a nutritionist who travels extensively and he had an account in central America — in Coastal America and on his tour of dairies in Costa Rica, in the mountains he came across several instances where water was diverted from a stream through a barn to clean out the offal, to do the washing and he brought back pictures. I do not have the pictures myself but he brought back pictures of this and I was very much interested to see this method of cleaning.

Q You have never seen these installations yourself?

A Not personally, no.

Q And they are not in this country, this is in Costa Rica?

A Well, I have seen reports of others in the country.

Q The one you are talking about, the ones you were telling me about, those are in Costa Rica?

A The one I have seen the pictures of, yes sir.

Q And where are they in Costa Rica?

A In the mountains of Costa Rica. It is not a very big country. It wouldn't be hard to find.

Q You have no local —

A — I can get the address.

Q You don't have it?

[62] A I didn't come —

Q — did you give it to your counsel prior to testifying?

A I believe the counsel, I believe Mr. Hulse has seen pictures of this, seen copies of the pictures.

Q I am asking with respect to the address.

A The address, no, I have not given the address.

Q What year was this supposed to have taken place in Costa Rica?

A It did take place. It is taking place now, and this was two years ago when Dr. McDaniel, our nutritionist was there.

Q That would have been 1967?

A Yes.

Q These pictures of this installation were in 1967?

A The installation was a number of years old.

Q How do you know that?

A All right. It is hearsay

Q As far as you know?

A I wasn't there.

Q The pictures you saw were something that took place in 1967?

A That's right.

Q Let's talk about this country. Did you ever know of a barn cleaning system that existed in this country prior to 1963 in which the water was collected as a pool on or above the floor of the barn?

[63] A My own knowledge?

Q Tell me about your own installation.

A I have a large storage tank that holds 50,000 gallons. We have a pressure pump connected to this and using two or three hoses with at least 50 pounds of pressure we flood the water — flood the floor and wash the offal.

Q Through hoses?

A Through hoses, yes, which are outlets to the tank, as far as I am concerned.

Q The water comes out from a nozzle of a hose, doesn't it?

A That is the means of transportation, yes.

Q Did you ever hear of any barn where there was such a tank and the tank and the water were suddenly released to flood, to wash down as a sheet of water?

A Prior —

Q — to 1963?

A No, I have not.

MR. KOLISCH:

That is all I have.

MR. HULSE:

That is all, Mr. Price.

May this witness be excused?

THE COURT:

Yes.

MR. HULSE:

If the Court please, I stated to the Court before noon that I might have two witnesses but I am going to put on the stand only this one and I want to check about the papers to be sure. My understanding is the deposition of Mr. Gribble, which [64] was taken before the time of the summary judgment is considered in evidence and therefore part of the record in this case. Do we consider the things that were in the transcript when this case went up to the Court of Appeals as being in the record here today?

THE COURT:

Yes, I will consider the entire transcript for whatever use counsel may want to put it to and whatever use I may want to put it to for determining it. Either one of you may refer to anything in there you want to.

MR. HULSE:

Is the Court's file in here?

THE CLERK:

Yes, sir, but there was no transcript of evidence in this record on appeal.

MR. HULSE:

No, there would not have been one because it was a summary judgment.

I filed in there a request for admissions about certain items and I would like to use the file.

THE COURT:

The clerk will find it.

MR. HULSE:

If the Court please, if I may, I would like to offer those in evidence from that file.

THE COURT:

You may offer them and you may read them if you want to or you may just offer them.

MR. HULSE:

I will just state what they are, if the Court please. This was the defendant's request for admission of the genuiness of document one, the application of D. J. Gribble for the patent bearing patent office number 3,223,070, together with the applicant's admendments thereto, the patent examiner's [65] opinion on the original application and each one of the admendments, all being marked exhibit A attached hereto.

Number two are the documents attached to this request and marked exhibits A-1 and A-2, copies of "Cattle shelters and equipment for South Carolina", Extension Agricultural Engineering Handbook Number Two, December 1958, pages 21 and 26, published in 1958 by the Clemson University Agricultural College, Clemson, South Carolina.

Three, a document marked exhibit B, being a copy of page 13 of a document published by Babson Brothers Dairy Research Service in 1959, entitled "The Way Cows will Be Milked On Your Farm Tomorrow."

Four a document consisting of nine pages, marked exhibit C and being a copy of the K. Luks patent, bearing patent office number 1,968,564 and dated July 31, 1934.

Five, a copy of a document marked exhibit D and consisting of eighteen pages and being a copy of the F. J. Kreutzer patent bearing patent office number 1,981,417 and dated November 20, 1934.

Six, a copy of a document marked exhibit E and consisting of ten pages and being a copy of the F. J. Kreutzer patent bearing patent office number 1,981,418 and dated November 20, 1934.

Seven, a copy of a document marked exhibit F and consisting of twenty pages, being a copy of the H. McCornack patent bearing patent office number 2,081,947 and dated June 1, 1937.

The genuiness of these copies of documents was admitted by the plaintiff and they are attached hereto and I offer them in evidence, without reading the details of all of these documents [66] themselves.

THE COURT:

All right. They will be admitted. The transcript, as I said, will be available to either one of you if you want particularly to call the Court's attention to some item in there.

MR. HULSE:

A patent which was not on that list, Mr. Kolisch, but with which I think you are familiar —

MR. KOLISCH:

I am familiar with the Bogert patent, but you haven't complied with section 284 of the statute. You haven't given me the proper notice.

MR. HULSE:

Well, I understand. I am just now showing it to you

but you have long been familiar with it. I will ask you if this is a copy of the Bogert patent?

MR. KOLISCH:
Yes, sir, that is a copy of the Bogert patent.

MR. HULSE:
Then I will offer it also, patent number 2,233,766, dated March 4, 1941.

* * * *

[67] THE COURT:
Well, the Court will admit it but if you need time — you say you are familiar with it; if it is necessary for you to have more time to rebut it I will give you that time to do it or if you want to supplement it or offer something to the contrary I will permit it.

MR. HULSE:
I want to offer two statements from the brief filed by counsel for plaintiff in their supplemental memorandum in opposition to defendant's motion for summary judgment. I will offer the entire document, I suppose would be the proper way to get it in, and point out to the Court the two statements that I offer it for. They are to be found at pages 9 and 13 respectively. I offer it for the statement on page 9 — I was mistaken, it is page 8, beginning at line 27, the statement "Plaintiff does not deny that the patent is made up of a combination of old elements, just like most other patents. However, plaintiff's position is that the combination of elements called for in claims one, two and three of the patent (listed in simplified form above) had never been combined as specified, and the result of combining these elements was to produce a completely new dairy barn construction which was not only different from anything that had existed prior to it, but so far superior and produced such unexpected results that it achieved wide spread commercial success and recognition among persons, institutions and businesses who are the most knowledgable in this field." And that is offered for the purposes of the admission that it was made up of things that were old, merely a combination patent.

[68] And for the same purpose and to the same effect, the statement on page 13 of this supplemental memorandum where it states, beginning with the last word on line 21 and proceeding thereafter: "Plaintiff admits that all the elements are individually old, but no one prior to the inventors ever combined the elements as called for in the claim."

THE COURT:
All right. Mark that as a defendant's exhibit.

THE CLERK:
Defendant's exhibit C, Your Honor.

THE COURT:
All right. We better include the entire transcript so that either one can refer to it, the record on appeal.

* * * *

DARRELL LLOYD REED
having been first duly sworn on oath to tell the truth, the whole truth, and nothing but the truth, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KOLISCH:

* * * *

[69] A No, sir.

Q What business are you engaged in?

A I am a milk producer. I am a dairyman.

Q Where do you have a dairy?

A I have a dairy at — just north of Waco, Texas.

Q Could you tell us roughly about the size of your dairy?

A We milk 325 cows with an assortment of dry cows and heifers come into all dairies for a combined total of about 600 head of cattle on the premises.

Q How long have you been in the dairy business?

A Oh, basically — of course I was reared in Wisconsin on a dairy farm. I grew up on a dairy farm and outside some years spent in the service and so forth, why, I have basically been in the dairy business all my life, outside of those interim periods.

Q How old are you now?

A I am 51.

Q Do you belong to any dairy organization?

A Yes, I am a member of the Associated Milk Producers, Inc.

Q Tell us what that organization is.

A Well, it is basically a milk marketing organization. I believe it has 43,000 members, dairymen. This is the only — you have to be a bona fide producer to be a member of this organization. It covers — goes from the Gulf of Mexico to Canada and it covers, I believe, about 21 states. I have served on the board of directors [70] of the various milk associations. I have traveled quite a

bit with that and for this milk association. This is an offshoot of many organizations, actually. I was on the original board in the original group that started the founding of this large organization and it, of course, has continued to grow from there. At the present time I am a voting delegate for the southern district or southern division in area seven, which is the area I represent.

Q Have you been a delegate to conventions of this organization?

A Pardon?

Q Have you been a delegate to conventions?

A Yes sir, I am at the present time a voting delegate for this. We just returned from Chicago from our last annual meeting which was over Labor Day.

Q Is this the meeting President Nixon addressed?

A Yes, sir.

Q Now in the course of your business have you acted on any panels? Have you been active in educational institutions or conferences involving your business?

A Yes, sir. I have been — let's see, last November I was on a panel down to A & M College at College Station, Texas. I have been on some panels.

Q What was the subject that you had under discussion at that last conference at A & M that you referred to?

A Well, this was on liquid manure disposal systems and [71] I was on the panel to the fact that we have one and our experiences with it and so forth. This is what they were trying to bring out.

Q Now going back to the period prior to 1963, will you tell us from your knowledge what was the best available way of cleaning and removing manure from dairy barns?

A Well, going back to when I was dairying in the north, your mechanical cleaners which was a series of chains that runs through a gutter that elevated it up into an outside spreader. We used tractor blades, scoop shovels, scrapers, high pressure hoses, brooms.

Q How satisfactory were those systems?

A Well, they were never a hundred per cent satisfactory. It wasn't quite such a problem in years back, and this was kind of the accepted way to do it. Labor was a little more plentiful, a little cheaper, but as this — as the dairy industry grew this problem became more acute from the standpoint of labor, getting somebody to do it, and our health standards, of course, during this same interim period were constantly becoming more stringent and what was good enough ten, twenty years ago is not good enough today. We had to find better methods of cleaning, to do a better job of cleaning. This all had a part in it.

Q Do you have a patented Ag Pro system in your dairy?

A Yes, sir.

Q When did you get it?

A We started milking in the barn in April of 1970. We [72] started construction in August of '69.

Q Prior to purchasing the Ag Pro system what investigation, if any, did you make with respect to barn cleaning systems?

A Well, I had, of course, gone into many types of installations. I checked to the best of my ability pretty thoroughly and I checked with A&M College. In fact this was my first stop, to see what they had to offer and also with various feed companies and some of them had some planning services, and our own milk association, to a limited degree, has a planning service. I went to some research farms up to Kansas City, Missouri. Farm Land Industries has a research farm where they have free stall housing which I was also interested in, but there again they had the concrete and tractors and blades plus the fact of — I have seen dairies over a good portion of the United States and they just never quite come up with the answer to this cleaning problem where it was completely satisfactory.

Q Where did you see the first working Ag Pro installation?

A I seen my first working Ag Pro installation at Cameron, Texas at Elm Creek Farms.

Q Roughly what year was this?

A This was in approximately February or March of the year 1969. One of the representatives of Ag Pro heard that I was going to build a new installation and came by to see me and consequently picked me up and took me down and this is where I seen my first flush system.

Q Will you relate to us as completely as you can what your impression was when you saw the Ag Pro system?

[73] A Well, of course this was so revolutionary from the methods we had been using over the years, and like I say, I think I was kind of born on the end of a manure scoop. We had done this since childhood and the thing I think that probably impressed me the greatest was the cleanliness of the thing after the flush. This was, as I was referring to it later, it was the clean, clean, you know, much better than what we had been able to do with our scrapers and hoses and so forth in the past.

Q Under the old system the scrapers and the hoses

— did you hose down areas other than those in the milking and immediately adjacent to the milking areas?

A No, sir.

Q How were those areas cleaned?

A Well, those areas were just bladed, usually, with a blade on a tractor, just bladed it off and loaded it, usually, with a front end loader on spreaders and carried it out.

Q Now from your experience with the Ag Pro system can you make any comparison with respect to the length of time it would take you to clean an area in a confined type of barn operation such as I understand you have for say 100 cow group?

A Well —

Q — I would — excuse me, I would like for you to compare cleaning under the old — the best old method that you were familiar with and how long it would take to do a comparable job with the Ag Pro system.

[74] A Well, I will have to speak for my own cow group. We have 62 cows to a group. They are housed, fed and everything within this area. The physical time involved in cleaning that with this system is two or three minutes. In other words, the length of time it takes to drop our gates and close them back up. Now to try to compare that to a comparable cleaning job is a little difficult but to blade it off and hose it down and come to the same degree of cleanliness, I would say, it would take a minimum of about three hours to drag this out and hose it and broom it down to this degree.

Q As a practical matter, did you, under the old system, ever maintain all of these areas, not just the milking area but all the living areas under these conditions of sanitation?

A No, sir.

Q Such as you have with the Ag Pro system?

A No, sir.

Q Why didn't you?

A It was just not feasible.

Q You are talking about the economics of it?

A From an economic standpoint, you never could accumulate that much labor to clean and hose and brush that large an area. It was just not feasible.

Q I don't know if you have testified to this or not, but when an area such as you have described is cleaned by the Ag Pro system is it entirely cleaned so that you would say it is shining clean?

[75] A Yes.

Q Putting yourself back to the period of 1963, was the Ag Pro patented system what they did? Was that obvious to you at that time?

MR. HULSE:

If the Court please, what was obvious to this man, I don't think is material.

THE COURT:

That's right. I will sustain that.

Q In 1963 was it ever suggested to you by anyone or any publication or anything you had ever heard of to have a barn cleaning system like the Ag Pro system?

A No, sir.

* * * *

M. G. HUBER

having been first duly sworn on oath to tell the truth, the whole truth, and nothing but the truth, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KOLISCH:

Q Can you hear me all right, professor Huber?

A I think so.

Q You have a little trouble in hearing in this courtroom?

A Yes.

Q Will you please state your full name and your address?

A My full name is Milam George Huber, signed M. G. Huber, [76] generally. I live in Corvallis, Oregon.

Q What is your present occupation?

A I am presently retired and doing some consulting work.

Q Prior to retirement what did you do?

A I was an agricultural engineering specialist with the Cooperative Extension Service at Oregon State University.

Q Will you tell us generally what the nature of your work was and if there was any particular field in which you specialized?

A I was — I worked with county agents. I worked with farmers and I worked in the area of farm building, planning, layout, designs, animal waste disposals, anything that had to do with farm building, although this did not take all of my time. Probably 40 to 50 per cent of my total time was devoted in this area.

Q Will you give us your educational background?

A I am a graduate from the University of Wisconsin in Agriculture — with a major in agriculture. It was a major at that time. Now it is a degree. I graduated in Mechanical engineering from the University of Wisconsin and I did some graduate work there and at the Pennsylvania State University.

Q What is your present age?

A 66.

Q Will you tell us briefly about the nature of the work that you have done since you have completed your degrees at the institutions that you mentioned?

A After I completed my degree work at the University of [77] Wisconsin, of course, this was during the depression years and I had a few miscellaneous jobs up until 1935. Then I was appointed as an instructor in agricultural engineering at Pennsylvania State University, at that time Pennsylvania State College. In 1936 I accepted a position at the University of Maine in the school of agricultural engineering and I was there until 1945. From 1945 until my retirement I was at Oregon State University.

Q Are you a member of any professional societies?

A I was for about 30 years a member of the American Society of Agricultural Engineers.

Q Are you the author of any publications in the field of agriculture?

A Yes, numerous publications in my field. I do not recall the number but I know that it is at least 30 or more and that includes, for example, dairy housing and animal waste disposal. I published the first publication in the United States on free stalls or individual stalls as they are now used and used in this layout and worked on poultry houses, beef animals, sheep, hogs, everything I guess, all kinds of livestock.

Q Have you studied the Gribble patent which is in litigation here?

A Yes, I have read it and re-read it.

Q Have you also studied the prior art publications which the defendant gave us notice he was going to rely upon at this trial?

A I believe there were six of those. There were two publications [78] and four patents. I have read all of those and looked at them very carefully.

MR. KOLISCH:

I am going to offer Professor Huber as an expert. Do you wish to question him?

THE COURT:

What opinion are you going to ask him?

MR. KOLISCH:

He is going to be asked with respect to the prior art in this field and with respect to the patent in suit and with respect to the prior specific instances of prior art.

THE COURT:

Well, go ahead. We will pass on each question when you get to it.

Q (MR. KOLISCH) Now considering the situation prior to 1963, what was, or were there any problems with respect to — specifically to dairy barn construction and the removal of waste products and manure?

A I think all dairy farmers considered that one of their major problems in the dairy enterprise, removal of manure from the cow area.

Q Is there any particular reason why this is such a problem or was a problem?

A Most people don't like to work at the particular job. Not only that, there is a considerable volume of this material to be moved and of course if the farmers don't do a good job the milk inspectors will be after them. Hence, it meant it had to be reasonably clean. Now of course that can be argued, what is reasonable, but it had to be clean enough to comply with the milk inspector's [79] requirements and it took some time — not only that, but took a considerable amount of time. I did that when I was a boy and I just hated the thing.

Q You refer to volumes. Do you have any information concerning the amount of manure that is produced on a daily basis by a cow, for instance?

A Yes, there are tables that have been prepared and, incidentally, I prepared the first table on that in the United States, on the volume of manure produced by various animals. It has been changed somewhat since. For example, let's take a large dairy animal, a 1,600 pound cow, and it will produce, probably, 16 to 17 gallons of manure per day. That means solid material plus the urine plus the liquid. Now this can be a little more or a little less, depending on whether the cow is a big producer and takes in a lot of feed or whether the cow is dry. It just depends on the cow. Also, what she may be fed at the time. Those are variables, but those are guidelines that we use. Then too, if we want to look at it another way it will take probably about 16 cows to produce one ton of manure and if we have a hundred cows we have got 6 or more tons of manure to handle every 24 hours, which is considerable weight.

Q And what was the situation in 1963 with respect to the best known ways of removing manure?

A I don't believe that there was any one best way, although all the people in the state of Oregon used

scrapers in a loose housing layout. We need to distinguish between the type of housing. For [80] example, whether it was loose housing with free stalls or just plain loose housing or a station type barn. In loose housing they use scrapers and supplement it with a hose under pressure and in some types of barns they have the gutters and conveyors and some still use the hand shovel or fork.

Q When did you first personally become acquainted with the Gribble-Bennett invention?

A About early 1963, I believe. That is when it was, somewhere around that time. I am sure I am not very far off.

Q And do you recall what the circumstances were and where you saw it?

A I saw it at Sweet's Dairy at Sixes, Oregon.

Q What impression did the invention make on you when you first saw it?

A It made a great impression on me. It was a complete new concept in manure removal, in cleaning the dairy barn, different than anything that had ever been used. I might add, with your permission, that the key to this concept is this: water has energy and it can be used in many different ways. In a hose the energy is used by impact, under pressure, external force that is applied to this pressure — to this water, whereas the water that comes down as a sheet or wall of water has built in energy because of its elevation and as this water is released it does the same thing water does in a flooded stream. As this water — I will try to make this clear, and I hope I can, on the surface of this pavement there are [81] these piles of manure droppings. This pavement is smooth and this water moves down over this manure. The water at the bottom has more friction

than this water on the top and it keeps moving ahead and as this water keeps moving ahead we get a rolling action of this water which produced the cleaning action. That is the key to this method of cleaning. You do not get this in a hose. You do not get it in a gutter as has been used in the past. I might just mention a little bit about the hose. This squirting water on a floor — probably have done it on our own sidewalks or walkways, and I just mention that, that unless that water is continuously directed towards the cleaning area the cleaning action almost ceases instantaneously. Now the movie that was shown earlier very dramatically illustrated that point. The cleaning action — as soon as the hoses moved to one side the cleaning action ceased here and that is why this hose was moved back and forth, to drive this stuff on down to where we want it. I am wondering if that explains it?

Q Yes. I think that is correct. This is what you observed in the movie that was shown here, plaintiff's exhibit 9?

A Yes.

Q In 1963 had this concept ever been suggested to you?

A Not to my knowledge, in no way whatsoever.

Q Will you refer now to the prior art relied upon by the defendant?

The first is an article entitled "Cattle Shelters and Equipment for South Carolina", Extension Agricultural Engineering Handbook No. 2, [82] December, 1958, pages 21 and 26. What comment do you have to make with respect to that publication?

A This shows nothing more than the conventional floor plan that was used about that time in many areas of the United States. There is nothing in this plan that has anything to do with cleaning or washing floors. It

is simply a conventional type of plan. That is all it is.

Q Will you now refer to the second publication which is entitled "The Way Cow's Will Be Milked On Your Farm Tomorrow" by Babson Brothers Dairy Research Service, 1959, page 13. Here is a copy.

A Well, all this does — it is just another plan for conventional loose housing which had been in use for some time. The same cleaning methods are used here that have been in use for quite some time, either scraping — scraping is required and if further cleaning was required then water under pressure — external pressure was used. That is about all. There is nothing in this that is new or different compared to the Gribble-Bennett method of flushing.

Q Would you look at the Luks patent, patent number 1,968,564 dated July 31, 1934?

A Yes.

Q What comment do you have to make about it?

A This patent shows a milking apparatus on a moveable plat form which carries cows in a circle through a series of positions where it is sprayed and then milked and then released. It has a [83] gutter which is something that has been in use for a long time. It has drain pipes which is no different and has been in use for some time. It uses wash water and the refuse from the cows is carried away in this wash water and there is no — that teaches nothing new. In other words it is, again, just using the old conventional methods of a little water washing it away, the manure, which is exactly the same as has been done over a period of years.

Q Refer to the Kreutzer patent, number 1,981,417. What does that patent show?

A All this shows is a combination animal housing-feeding structure. This is a fire-proof construction and

of course it is ventilated in such a way where it was to store, let's say, maize, hay or partially dried hay. I don't think they ever put green hay, but partially dried hay to obtain drying in the storage by additional air movement or natural ventilation. This did not work satisfactorily under all conditions. It has nothing to do with the barn cleaning whatsoever.

THE COURT:

Excuse me just a minute.

(SHORT RECESS)

Q (MR. KOLISCH) I believe I asked you about the Kreutzer patent number 417. Would you tell us about the Kreutzer 418. Have you testified concerning that patent yet?

A No, I don't believe I have. That particular one, again, calls for fire-proof buildings or metal buildings and the buildings are arranged in different patterns and units put together in different [84] combinations. Now there is nothing in this that concerns barn cleaning at all.

Q I will call your attention to the Mc Cornack patent, number 2,081,947?

A Yes.

Q What comment do you have to make with respect to it?

A Again, this one uses water pipes to various portions of the barn such as the milking area, the out-stall areas, and gutters are provided for leading away the water. This barn, as I see it, does not have anything pertinent to this particular case because it has gutters and a system of water pipes throughout various parts

of the barn. This is nothing more than a conventional barn that uses hoses and pipes at various locations. This has been done, I am sure, prior to this patent and also, until rather recently — and is still being done.

Q With respect to this Mc Cornack patent can the manure and other waste products be removed simply by the use of water, according to this system?

A Well, as an engineer, that would be a hard question to answer without knowing specifically how much water we were using, how much pressure there was back of the water, the type of nozzles and everything. It probably could be done but I would need to know some of the things that I haven't been able to determine out of this patent. It has probably been done in this particular instance but whether anybody else could take this patent and duplicate the same [85] thing, I don't know whether that would be possible or not.

Q According to the Mc Cornack system, would it be necessary to use hand labor?

A Maybe in some instances, yes, I would expect that it would be necessary.

Q How about using the hoses?

A Either that or portable hoses in order to get the complete cleaning job such as we get from the Gribble patented flush system.

Q Is there any suggestion in that Mc Cornack patent of collecting water as a large pool for sudden release?

A No, I did not run across anything like that and the patent itself mentioned that brooms may be necessary in some instances. This reverts back to hand labor.

Q Would you look at the Bogert patent, 2,233,766?

A Yes.

Q Have you looked at that patent before?

A I have looked at this patent and again it has a gutter and it is a gutter system layout. The gutter system — and it does some washing of the stalls, by, I believe — probably I should look at this a little more, I am not thoroughly refreshed on this but I believe it uses a system of hoses or sprinklers in doing the cleaning.

Q Does the Bogert patent have any suggestion of collecting water as a large pool for sudden release to flush the barn floor areas?

A No, not in the same way as used in the Gribble and Bennett [86] flush system.

Q Considering all of these prior art references about which you have testified, do any of them either individually or in combination, that is taking any one patent as such or taking various elements from all these patents about which you have testified, do any of these teach the patented Gribble-Bennett invention?

A No.

* * * *

CROSS EXAMINATION

BY MR. HULSE:

* * * *

[90] Q Now you said awhile ago that — speaking of water rolling down the floor in a sheet that the water contained energy because of the fact that this floor is sloped and it starts out at an elevation higher than the other end of the floor, is that the size of it?

[91] A The water contained energy.

Q And you said it had energy in this instance because of its elevation?

A Right.

Q And that means the energy is used to wash manure off the floor as this water flows down the slope or grade of that floor?

A Right.

Q And it is due to the elevation where it starts that it gets this energy that accomplishes this purpose?

A Yes.

Q And if water were introduced at the same slope it would have the same energy, wouldn't it?

A The same quantity of water. May I ask you a question?

Q Well —

A — the same quantity of water. The same quantity introduced the same way would have the same energy.

Q So the fact that this energy is derived from this water flowing down a slope — that is part of the process of gravity, isn't it?

A Yes.

Q And one of the essential things about this whole system is really that you are using a gravity system of water flow, isn't it?

A We are using the force of gravity.

Q And really it is just that simple, that it is a gravity [92] system, isn't it?

A No, absolutely not.

Q This matter of washing dairy floors of a dairy barn off with water introduced to the floor one way or the other is an old thing, isn't it?

A It all depends on how we are using the water that is introduced onto the barn floor.

Q Well, —

A — and the quantity of water.

THE COURT:

Answer the question. You can explain your view. Repeat the question.

A All right. Yes.

Q And water has been introduced onto the floor of dairy barns in the past over many years by different methods such as, number one, the diversion of water from a nearby stream across a dairy barn floor?

A I never heard of that.

Q You never heard of it?

A No one ever called it to my attention.

Q Well, you have been in the courtroom all morning and you heard counsel for the plaintiff in his opening statement refer to Hercules cleaning the augean stables. You have heard of that, haven't you?

A Yes.

Q And that is the way that was done in that story so long [93] in existence, was it not?

A That is what the statement says, yes.

Q That is what the statement says, so at least the idea is not new, is it, of washing a barn floor out with water?

A The idea of washing with water has been done for a good many years, using hoses.

Q I was going to say it has been done by using hoses.

A It has.

Q It has long been done by using pipes in one fashion or another?

A Yes.

Q Now as a matter of fact for a considerable length of time this business of washing dairy barn floors with

water in one way or another to get them clean has been required by law in various states if you are going to produce grade A milk, hasn't it?

A Yes.

Q So they have had to be washed off one way or another over many many years?

A Yes.

Q And that is long prior to 1963?

A Yes.

Q Now you were asked about what was called the prior art filed here, about these two publications and about several different ones, but let me ask you, professor Huber, about the elements as described in claim one of the Gribble patent. I want to ask you [94] about these things described here having been in use long prior to 1963, and first — here is the place so you can follow me. I see you have a copy of it there with you. It says "A dairy barn for cows and the like including a smooth, evenly contoured paved surface forming a floor providing a walking surface for cows in the barn . . ."

The item described there has long been in use prior to 1963, has it not?

A Yes.

Q And the next item: ". . . drain means for draining wash water from such floor opening to the top of the floor . . ."

These drains as described have long been in use, have they not?

A Yes.

Q When I say "long been in use" I mean, in each instance, at least prior to 1963.

The next item: ". . . said smooth, evenly contoured surface which forms such floor sloping towards said drain means whereby wash water discharged on the

floor maybe collected and disposed of through said drain means, said barn further including —"

I am going to break it off.

That has long been in use?

A It has been.

Q I am just talking about the floor and drain?

A Yes.

Q And the next item then says: ". . . said barn further [95] including multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also of smooth pavement . . ."

And those have long been in use, have they not?

A Yes.

Q And the next item says: ". . . but which is disposed at an elevation above the paved surface forming the floor . . ." and that has long been in use?

A Yes.

Q ". . . said stalls being dimensioned so that a cow can comfortably stand or lie in the stall but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn . . ."

And that has long been in use?

A Yes.

Q ". . . said barn further including defined feeding areas having feeding troughs with means for discharging feed to the troughs . . ."

And various means of doing that have long been in existence, have they not?

A Yes.

Q And next: ". . . a cow holding area . . ."

That has long been in existence, has it not?

A Yes.

Q ". . . a milking area . . ."

[96] And likewise that has been in existence a long time, has it not?

A Yes.

Q ". . . and a transfer area . . ."

That likewise has been in existence many years, has it not?

A Yes.

Q ". . . all bottomed with the walking surface forming said floor in the barn, and floor washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas . . ."

Down to that point about having a floor there which can be washed off, before we get down to the means, that has long been in use, has it not, washed by one means or another, whether hoses or pipe or spray or whatever?

A Yes.

Q And then continuing, it says: ". . . operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means, constructed to collect water as a pool above said floor and operable after such collection of water as the pool to disperse the water as a sheet of water over said floor . . ."

And that part, I understand you to say you haven't seen until you got down to the Sweet farm sometime early in 1963?

A That's right.

[97] Q The use of a tank for the purpose of holding water at a dairy installation —

A — pardon me, I am not following you. Is that number two?

Q No, I am not looking at the patent now, professor. The use of a tank for the purpose of holding water at a

dairy installation is, of itself, as a water trough or whatever purpose they wanted to collect water for is not new?

A No.

Q And neither are steel tanks or concrete tanks? They have long been used as troughs, have they not?

A Yes, for drinking water

Q For drinking water?

A Yes.

Q And some of them have sizes equal to sizes of tanks which are used in this instance at that Sweet installation you were talking about?

A Could be.

Q Now if you wash the floor by whatever means, either the water should be introduced at the upper end of a floor that has some slope or grade to it, should it not — I am not talking about from a tank, I am talking about from any means?

A Will you repeat that question again?

Q Let me re-state it.

If you are going to wash a dairy barn floor off by whatever means the water is introduced, you need to have a floor that slopes [98] so the water will be carried away to the drain, do you not?

A Yes, indeed, sloped to carry away the water.

* * * *

[46] DEFENDANT'S MOTION FOR A NEW TRIAL

[Title Omitted in Printing]

Filed: Jul. 27, 1973

Comes now BERNARD A. SAKRAIDA, Defendant herein, and moves the Court to grant him a new trial herein, and as grounds therefor says:

1. This cause was tried before this Honorable Court on the 13th day of September, 1971, following which on September 23, 1971, this Court entered a judgment for Defendant holding Patent No. 3,223,070 held by Plaintiff does not constitute invention, is not patentable, and is not a valid patent, it being a combination patent, all the elements of which are old in the dairy business, long prior to 1963, and the combination of them as described in said patent being neither new nor meeting the test of nonobviousness.

2. Plaintiff appealed from said judgment to the United States Court of Appeals, Fifth Circuit, which on February 5, 1973, entered its judgment holding said Patent No. 3,223,070 was valid.

3. Defendant, who was the Appellee in the said appeal, thereafter and in due time, filed his Petition for a Rehearing in the Court of Appeals, Fifth Circuit, one of the grounds therefor being newly discovered evidence, it being alleged in said Petition for Rehearing:

"Defendant-Appellee petitions for a rehearing, and prays the Court to remand the issue of the validity of the Gribble and Bennett patent to the Trial Court, on the ground of Defendant-Appellee's discovery of new evidence since the date of the entry of the Trial Court's judgment, and while this appeal has been pending, which new evidence shows that a floor washing means constructed to collect a pool of water uphill from or on the floor so that, when the water is abruptly released, it will flow as a sheet to wash almost instantly the barn floor area was designed, installed, and in operation prior to November 5, 1963, the date of filing of Plaintiff-Appellant's application for a patent. Such a system was designed by Herbert G. Meyer, of Carmel, California in 1962, and was installed by him in the Mission Dairy at Gonzales, California, the contract therefor having been let in September, 1962, with the said Mission Dairy Barn having been completed and in full operation in October, 1963, and which is still in operation at this date (1973).

The affidavit marked Exhibit "A", of Herbert G. Meyer, owner and operator of the Mission Dairy, Gonzales, California, to said facts is attached hereto and made a part hereof in support of this petition. Pictures of the gate, or dam, and of a part of the tank behind the gate or dam, and a picture of the surging flow of the water, when released, are attached to the said affidavit. The specific information about such a floor washing means being installed and used by Herbert G. Meyer at the Mission

Dairy, in 1962-1963, did not come to the attention or knowledge of Defendant-Appellee until January, 1973, when he was told of it by Herbert G. Meyer, as stated in said affidavit attached hereto. Defendant-Appellee says the said newly discovered evidence is material to the issue of use of a water-flush system, on a dairy barn floor, prior to the filing of the application for the Gribble and Bennett patent, and that Defendant-Appellee should be entitled to place evidence concerning same before the Court in order that all relevant facts be made known to the Court for its consideration, and that justice may be done. He therefore prays this Honorable Court to remand to the Trial Court the issue of the validity of the said patent. Since the case is being remanded to the Trial Court on the question of infringement, the cause of justice and the rights of Defendant-Appellee will best be served by remanding both issues to the Trial Court."

4. A copy of the said affidavit of Herbert G. Meyer is attached hereto.

5. A copy of the affidavit of Defendant Bernard A. Sakraida, and a copy of a telegram from Frank F. Souza, dated March 27, 1973, which were attached to Defendant-Appellee's response to Plaintiff-Appellant's reply to the Petition for a Rehearing are also attached hereto.

6. The Court of Appeals, Fifth Circuit, by its Order dated June 25, 1973, remanded this cause to the District

Court, with directions to enter a judgment holding the patent valid, subject, however, to the District Court's consideration of a motion under Rule 60(b)(2) F.R.Civ.P., to be filed in the District Court by the Defendant Sakraida on the issue of patent validity based on newly discovered evidence. It is further directed that the District Court will hear and determine said motion before proceeding on the issue of infringement, and that the District Court will then certify to the Court of Appeals the entire record, including its opinion and order and the testimony taken on the new trial issue.

7. Defendant Bernard A. Sakraida here moves the Court to grant him a new trial, and to grant him a hearing in connection therewith, for the purpose of hearing newly discovered evidence, along the lines indicated in the affidavit of H.G. Meyer and in the telegram of Frank F. Souza, by hearing testimony from H.G. Meyer, Frank F. Souza, Emil Rovey, Chester Whitmore, Dick Ripley and others, along the lines generally indicated, but not limited to them, in the affidavit of H.G. Meyer and the telegram from Frank F. Souza attached hereto.

8. Defendant Bernard A. Sakraida prays the Court that upon hearing such new and additional evidence, the Court hold the said Patent No. 3,223,070 invalid on the grounds that it does not constitute invention, is not patentable, and is not a valid patent, it being a combination patent all of the elements of which are old in the dairy business, long prior to 1963, and the combination of them as described in said patent being neither new nor meeting the test of non-obviousness.

/s/ J. F. HULSE
J. F. HULSE

/s/ STEPHEN B. TATEM, JR.
STEPHEN B. TATEM, JR.

Attorneys for Defendant

SCOTT, HULSE, MARSHALL
& FEUILLE
11-D El Paso Nat. Bank Bldg.
El Paso, Texas 79901

[Certificate Omitted in Printing]

Exhibit A

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES

AFFIDAVIT OF HERBERT G. MEYER

Before me, a Notary Public in and for said County and State, on this day personally appeared HERBERT G. MEYER who, having been by me first duly sworn, upon his oath deposed and said that he has personal knowledge of the facts herein set out.

I am forty-eight (48) years of age and graduated from the University of California with a B.S. degree in Mechanical Engineering in 1947. I presently reside at

Carmel, California. I am presently a member of the American Society of Agricultural Engineers and the American Society of Farm Managers and Rural Appraisers. Since 1962, I have owned and operated the Mission Dairy in Gonzales, California, which is a large, modern dairy that houses approximately 1400 head of dairy cattle, and operates by utilization of a twin milking parlor.

The Mission Dairy employs a modern, manure flush concept which, in essence, utilizes a flush concept wherein a large volume of water is stored as a pool on a cement floor behind a metal gate, thus forming a dam or storage tank. The large metal gate is operated by a hydraulic mechanism that allows the gate to suddenly be unlatched, thus falling to the floor and releasing the stored water as a wave to flow downhill. The surging action of the water as it flows downhill removes manure or droppings deposited on the cement floor as well as washing the hooves of cows.

I have attached to my Affidavit three photographs of my dairy barn at Gonzales, California, enclosed herein as Exhibits A, B and C. These photographs depict in detail the metal gate approximately 17 feet wide, approximately 2 feet wide and approximately 4 inches thick that serves to house the volume of water behind the gate. The gate is attached to the floor by a type of hinge mechanism that, when it is released, falls to a recessed position on the floor thus releasing the water stored behind the gate in a sheet to flow downhill, removing the manure deposited on the floor at the lower end of the modern dairy barn floor. Exhibit

B shows the gate elevated in place. Exhibit A shows the surging action of the water flowing downhill after the metal gate has been released. Exhibit C shows the portion of the floor of the modern dairy barn above the metal gate housing the stored water.

My purpose in installing the floodgate system was to wash away cow droppings on the floor as well as to clean the hooves of the cows standing in the holding area.

I, personally, designed the floor plan, flush system, holding tank and dairy construction employed at the Mission Dairy beginning in June of 1962. Contracts were let with Inland Steel for the construction of the dairy barn in September of 1962. Construction was then begun and the barn was ultimately completed and in full operation by October 1963, and is still in operation today.

I was first notified of the above pending lawsuit and personally met Mr. Bernard A. Sakraida on or about the 23rd day of January, 1973 while I was in the State of Florida on business. At that time I discussed the fact that I had built and had in operation since October 1963 a barn utilizing a manure flush system apparently identical to the one involved in the instant cause of action and discussed my barn plans and operation of same with Mr. Sakraida. Mr. Sakraida asked me as to whether or not I would bring such information with respect to my barn to the attention of the Court in this case. I agreed to cooperate.

Further affiant saith not.

EXECUTED this 13th day of February, 1973.

/s/ HERBERT G. MEYER
Herbert G. Meyer

Subscribed and sworn to before me this 13th day of February, 1973.

/s/ L. C. KENTON
Notary Public

Exhibit C

THE STATE OF TEXAS
COUNTY OF EL PASO

BEFORE ME the undersigned authority on this 29th day of March, 1973 personally appeared BERNARD A. SAKRAIDA, who having been by me first duly sworn upon his oath deposed and said:

That not long prior to the trial date of the case in September, 1971, your affiant heard that there was or might be some kind of a manure flush system in operation at the Mission Dairy at Gonzales, California, the time it was installed being unknown, and just what kind of a flush system was being used was also unknown. In order to investigate same, your affiant, who was living and working in Florida at that time, as he still is, requested Mr. Aubrey Wisdom of Medford, Oregon, and who was conversant with the dairy business, to check at the Mission Dairy, and ascertain

what kind of a flush system, if any, they had, and how long it had been in use.

Some days later Mr. Wisdom reported back to your affiant that he had been to the Mission Dairy; that it was in charge of a manager by name of Dick Ripley, who refused to give any information about the Mission Dairy to Mr. Wisdom, with the statement that he did not want to get involved. That your affiant therefore did not receive any information about what kind of a floor cleaning system was in use at the Mission Dairy, and has never known or been advised by any definite information as to what floor cleaning system is used at the Mission, Dairy, or has been used there, or how long it has been used there, until he came in touch with Herbert G. Meyer, in Florida, in January 1973, who was there on other business. At this time Mr. Meyer, in a conversation with your affiant, advised him of facts set out in Mr. Meyer's affidavit attached to Appellee's Petition for a Rehearing in the case of *Ag Pro, Inc. vs. Bernard A. Sakraida*, now pending in the United States Court of Appeals, Fifth Circuit at New Orleans. This information from Mr. Meyer was the first actual evidentiary information which your affiant had with respect to the flush system in use at the Mission Dairy, or when it was installed there, and when it began operation.

Affiant says that this is newly discovered evidence to him, because although he had heard that there might be something of the kind at the Mission Dairy, on making inquiry at said dairy, the manager thereof refused to give affiant's representative any information whatsoever, and your affiant was unable to learn what kind of a flush system was in use at the Mission

Dairy, or how long it had been in use there, or to obtain any other information about it.

Affiant further says it is his understanding that Ag Pro, Inc. has never instituted any legal proceedings against the Mission Dairy for alleged infringement of the patent claimed by Ag Pro, Inc., which indicates Ag Pro, Inc. knows the Mission Dairy flush system antidates its patent.

Affiant further says he had no knowledge of the water flush installations referred to in Frank F. Souza's telegram attached hereto prior to March 27, 1973.

FURTHER AFFIANT SAYETH NOT.

/s/ BERNARD A. SAKRAIDA
BERNARD A. SAKRAIDA

SUBSCRIBED AND SWORN TO before me this 29 day of March, 1973.

/s/ RUTH J. WALDREP
Notary Public in and for El Paso County, Texas

My Commission Expires:
June 1, 1973

Exhibit D

WESTERN UNION TELEGRAM

EPA194(1844) (1-031063C086) PD 03/27/73 1844
ICS IPMSFSD SFO
ZCZC 04235 TURLOCK CA 114 03-27 332P PST
PMS SCOTT HULSE MARSHALL FEUILLE, DLR
ATTN STEVE TATEM 11TH DLOOR EL PASO NATL BANK BLDG
EL PASO TX 79912
FRANK F. SOUZA., BLDG. CONTR., 28 YEARS EXPERIENCE IN DAIRY CONSTRUCTION AND DEVELOPEMENT HAS USED WATER-FLUSHING METHODS SINCE 1946 FOR CLEANUP AND LABOR-REDUCTION IN IN DAIRY INSTALLATIONS. ORIGINAL INSTALLATION BEING ON HARRY SOUZA RANCH, BRADBURY AND BLAKER ROADS, TURLOCK CALIF. IN 1946, USING THE WIER/BOARD SYSTEM, WHEREBY WATER IN DAMMED BY USE OF WIER/BOARDS, AND RELEASED WHEN SUFFICIENTLY ACCUMULATED, TO FLUSH OR WASH-DOWN CONCRETE CORRALS AND LANES. ANOTHER INSTALLATION WAS INSTALLED IN 1949 AT FRANK MACHADO DAIRY AT 26234 SOUTH UNION RD MANTECA CALIF AND AGAIN IN 1950 AT HOFFMAN RANCH MANTECA CLAIF. THESE HAVE SINCE BEEN FOLLOWED BY MANY OTHER INSTALLATIONS, UTILIZING THE SAME WATER/FLUSH SYSTEMS. RESPECTFULLY YOURS FRANK F SOUZA INC PRESIDENT

[51] DEPOSITION OF W. C. FAIRBANK

[Title Omitted in Printing]

Filed: Sep. 17, 1973

* * * *

[4] ONTARIO, CALIFORNIA,
THURSDAY, AUGUST 16, 1973
1:30 P.M.

W. C. FAIRBANK

The examination of the deponent, called as a witness by and on behalf of the plaintiff, pursuant to the provisions of the Code of Civil Procedure, State of California, after being first duly sworn by the Notary Public to testify to the truth, the whole truth, and nothing but the truth; and after entering into the usual stipulations, the witness was deposed and testified as follows:

EXAMINATION

BY MR. KOLISCH:

Q Will you please identify yourself, Mr. Fairbank, with respect to your residence and occupation.

A I am Extension Agricultural Engineer with the Agricultural Extension Service, University of California. My office is at the University of California, Riverside Campus. I reside at 2835 Iron Hills Way, Riverside.

Is that all right or do you want —

Q Yes, that is a sufficient explanation. Will you give us briefly your educational and professional background.

A I am a graduate agricultural engineer from the University of California, 1950; I have been — after graduation I — or since graduation I have been with the International Harvester Company, the pineapple division of Hawaii, Food [5] Machinery Corporation, a food and vegetable cannery engineer, and I joined the Agricultural Extension Service in 1958 with primary responsibilities ever since in the area of lifestock mechanization and related matters.

Q Can you —

A Oh, I might add to this.

Q Yes.

A I am a past officer in the United States Agricultural Engineers and hold committee appointments in that professional society.

Q How long have you been located in the Riverside area professionally?

A July; since July, 1965.

Q And where were you before that?

A Officed on the Davis Campus of the University of California.

Q And that was commencing in 1958 then?

A Approximately. There was a period of time there when I was out of the County adjacent to Davis but actually moved onto campus in — 1960, I think.

Q You are talking about the Davis Campus?

A Yes.

* * * *

[6] Q BY MR. KOLISCH: Well, I would like to have the best date that you can give me as to when you were first contacted by anyone connected with it.

A Well, let me see. I think — I think the first contact was by telephone, though I can't attest to that. The first communication I see here is in June of '69. Let me see. Letter from Mr. Hulse dated June 24, '69. Yes, that seems to be the introductory communication.

Q And now you are referring to your file which you have kept on this matter, I take it, is what you are referring to? Is this what you are referring to?

A Yes. If I —

Q To use with —

A I am referring now to my chronological file on this general subject of —

Q All right. May I see the letter that you are [7] referring to?

I take it that you want to keep this file?

A Yes.

Q I will simply read into the record a letter dated June 24, 1969, addressed to Mr. Fairbanks at the Agricultural Engineering Department, University of California, Riverside, and the letter reads as follows: "Dear Mr. Fairbanks, I represent Bernard Sakraida in the patent infringement suit brought by Ag Pro, Incorporated. I understand you are familiar with Ag Pro and with Mr. Gribble who seems to be the president of that company.

"Mr. Sakraida tells me that you have information which would be of great help to us in our lawsuit. From my conversations with Mr. Sakraida, I assume the information which would help us and which you could give us is along the line of flushing systems more or less similar to the one patented by Ag Pro but have been in use prior to the time of said patent. If you will

telephone me collect so that I could talk to you about it over the telephone, I will greatly appreciate it. Very truly yours, Scott, Hulse, Marshall and Feuille, F-e-u-i-l-l-e, signed J. F. Hulse."

That refers to conversations that you had with Mr. Sakraida. Were those as you recall now?

A I honestly don't recall because at that time I didn't realize there was any pending litigation, and I am sure when he called me the — I am sure I kept no record of all this. If I did, it would be in my file, but I am almost certain I kept no notes on that conversation.

[8] Q And at the present time you don't have any recollection of what the conversation would have been?

A It would have been relative to the oncoming litigation, I am sure, but beyond that — that is — I have no recollection.

MR. HULSE:

May I interject? The conversation with whom, Mr. Fairbank?

THE WITNESS:

Pardon?

MR. HULSE:

That is the conversation with whom?

THE WITNESS:

I presume Mr. Sakraida, because I do not have any recollection yet it has been referred to in this correspondence, and I am sure that I have just a very vague recollection, yes, of having had a contact with Mr. Sakraida, but at this late point in time apparently I

have no — no notes taken on that conversation. Probably on my blotter pad and — no, I have no —

Q BY MR. KOLISCH: Subsequent —

A — note or specific recollection of that conversation.

Q After you received this letter from Mr. Hulse, did you then telephone Mr. Hulse?

A I can only say I presume I did. I had some such telephone conversations with Mr. Hulse, but I don't know if it was as a result of that letter or some other act. I do know I had a telephone conversation with him somewhere along the line — with Mr. Hulse, unless I can — I had it here in the file — shortly afterwards or maybe a letter where — maybe, I don't know.

[9] Q Will you tell us now what the substance of that telephone conversation was and give me the best date that you can.

A It would have been in the fall of what? '69? Was that what it was? No, '68. What was it?

Q It was '69.

A Okay. It would have been approximately the time of this — these — this correspondence, that is all I can say.

MR. KOLISCH:

Off the record.

(Off the record discussion.)

THE WITNESS:

Some place in that period of time there was a letter, and all I can say is one or more telephone calls, but I kept no records because I had no anticipation of what this was going to result in as far as content. I generally

outlined my experience of having seen the general principle of manure flush-out and the use of flowing water for cleaning dairy barns.

Q BY MR. KOLISCH: Now, I note that on July 27, you sent Mr. Hulse a letter. June 27, 1969, and it went as follows: "Dear Mr. Hulse, this is in answer to your letter of June 24, the patent infringement suit brought against Mr. Bernard Sakraida by Ag Pro, Incorporated.

"Rather than try to sift through my files for specific details, I have chosen to send you the complete letter file which seems relevant (am enclosing 21 letters). As you can see, I have been involved directly in this situation since 1966 and have certainly had an acquaintance with the concept [10] of flushing going back to 1960 or before. Please return the enclosed file at your earliest convenience. I shall be glad to discuss any specific question you might have, so feel free to contact me in this regard."

And I take it you did send this material to Mr. Hulse?

A Uh-huh.

Q And then subsequently was it returned to you?

A Uh-huh.

Q Now, what I would like you now to state, in as much detail as you can, what was said in conversations between you and Mr. Hulse over the telephone with regard to this subject matter.

A I know that I discussed a meeting that I and the late Dr. Larry Borne, of the University of California — and someone else in the University — had with Mr. Gribble and Mr. Bennett at the — at their office, which was — or rather I should say at their construction office which was at the Piney Hills West Dairy, Calistoga, California.

Well, I can get — I have — we were, the three of us from the University with — called over to discuss liquid dairy waste handling systems with Mr. Gribble, who was introduced as a young agricultural engineer from the State of Oregon with seemingly some new concepts for dairy waste handling, and Mr. Gribble was seeking from us technical assistance relative to the pumping and distribution of liquid dairy waste.

Now, I believe I may have some notes in there giving more specifics. Okay, but I know that that meeting at Mr. [11] Gribble's office was discussed with Mr. Hulse, or his agent, and — at or about that time, or maybe I should say at that time or shortly following I mentioned to Mr. Hulse or Mr. Sakraida the Mission Dairy in Gonzales, California, owned — let me see — owned and operated by Mr. Herb Meyer, because that dairy was under construction at the time of the Ag Pro — at the time of our discussion. At or approximately the time of our discussion with Ag Pro, and the Mission Dairy embodied manure flush principles which later appeared in the Ag Pro patent.

Q Now, what was the date of that telephone conversation? You said it was either with Mr. Hulse or Mr. Sakraida.

A Yes, I had contacts with both of those gentlemen about that period of time and I can't now identify them.

Q Well —

A There may be some recollection — or there may be some reference in there but other than that I can't identify them.

Q Was it prior to October 13, 1969, which is the date of your first affidavit?

A I think so. I can't give an affirmative — I think probably so, but — no definite recollection.

Q But anyway your recollection is that it was at or about the time that you were having your first telephone discussions with Mr. Hulse and Mr. Sakraida?

A It was in that same general time period, yes. See, the trouble is I had phone calls — I should say some phone calls from Mr. Hulse and Mr. Sakraida, I do not know how many times [12] with either nor the number of times. I know that whether it was one or two, or two and one, and which came first, I have no recollection of that.

Q But you do remember telling them at that time about the Mission Dairy? Telling one or the other —

A Yes.

Q — about the Mission Dairy?

A No, I can't see as — that is the trouble. I have no way at this time of knowing which one of the gentlemen from Texas, or — or represented by Mr. Hulse's interests — which one was interested — which one — I mean, interested in what way.

Q Let me show you a Xerox of an affidavit and see if you can identify it.

A Let's see. Oh, yes. Okay. Now, see, as I was giving a previous answer I hadn't been reading this, perhaps this gives those dates. Let's see. Let's see. Yes. Okay. This is — yes, I would still — I wrote this and I would —

MR. HULSE:

May I see it?

THE WITNESS:

— not change my comments.

(Whereupon the Xerox copy of the affidavit was marked by the Court Reporter as Plaintiff's Exhibit No. 1 for Identification.)

Q BY MR. KOLISCH: I take it Exhibit 1 was the result of revisions between you and Mr. Hulse; is that correct?

A Uh-huh.

Q In looking through your file I see that there were [13] about two or three drafts, exchanges between you.

A Uh-huh, yes.

Q Mr. Fairbank, this is the first opportunity we have had to look at this file —

A No, sir. Your partner came down and looked at the whole file.

Q What was his name? Mr. Tatum?

A No, somebody came down from the northwest. Oh, I have got it in here.

Q Oh, Mr. Stewart?

A Mr. Stewart. He went through the whole file.

Q Mr. Stewart went through this (indicating), you are right, at the time that he brought you a copy of the second affidavit; do you remember?

A Yes, yes.

Q All right, fine. Would it be possible to get copies of any of these documents if we find it necessary?

A I think so.

Q Those which would be of interest to the court and they are not —

A Well —

Q — I don't intend to pry into anything.

A — some types of documents that I — administrator and my co-workers.

Q I am not interested in getting into your personal matters; anything that is unrelated to this matter, and you could go through there, if we wanted to look at this, and exclude anything.

[14] A Sure. I would — most of our work, as public servants, is public information and there is nothing exclusive or confidential about it.

Q You mentioned a Meyer, Mission Dairy ranch in Gonzales, California. When did you first become aware of that dairy?

A Approximately the same time I became aware of the Piney Hills West Dairy which was being engineered by Mr. Gribble. Now, by approximately the same time, I mean within — within several weeks one way or the other but I am not sure that I can —

Q My information is that the Piney Hills Dairy was built in 1963.

A Well, I can verify that. Okay, Piney Hills is November, '63. All right. Okay. Here we are. Okay. The Piney Hills Dairy was under construction in '63, and I would have to go back to my diary, which I did not bring, which actually gives us specific dates on there. December 2, '63. Mr. Borne, Mr. Harwood, and I visited the new Piney Hills Dairy, Calistoga, and met Mr. Joe Shaffer, and Mr. — probably Gribble and Bennett. That was December of '63, is when I was first on the Piney Hills Dairy.

Q And that dairy was operative at that time?

A I don't think it was. It was brand new, and they were just within a few days one way or the other in starting to milk at the dairy. It wasn't completed yet, but they were getting — they had brought in a few cows and — I mean, it was right there, was essentially going to start milking, but [15] I didn't think they had milked any yet.

Q And did you examine the manure flush system?

A No, because it was not yet installed at that date because at that time Mr. Gribble asked the three of us, Mr. Harwood, a farm advisor from Sonoma County; Mr. Borne, a former University specialist on irrigation and drainage and water handling equipment; and myself, Extension Engineer, technical details on — and Dr. Hare I think was on that trip — well, anyway, technical details about pumps, piping, manure sprinkler nozzles, et cetera, and it was at the official opening of the Piney Hills Dairy that I first saw the flush out system in its — essentially in its entirety.

Q When?

A You asked me about the Piney Hills —

Q About the Mission Dairy. Does that refresh your recollection with respect to Mission Dairy?

A I thought I saw something in there. Oh, I saw the dam arrangement at the dairy, at Mission Dairy, Gonzales, at 7/23/63. Seven is July, isn't it?

Q Yes.

A Yes, on seven — July 23 of 1963. So, I saw the dam arrangement at Mission Dairy, yes, five months prior to the examination of the dam at the Piney Hills West Dairy.

Q And was the flush system operative at the Mission Dairy?

A On that date? I don't know because the new dairy barn was under construction. Part of it was in use; part of it was not in use on that date, and I don't know whether that [16] particular flush system was or was not operating at that time. Certainly it was installed to the extent that — I saw how it was to function, but whether or not it was operative, I cannot say.

Q Yes. What is the first date that you can recollect

when you saw the Mission Dairy flush system operative?

A I have no recollection for dates on that because at some later time, perhaps weeks, conceivably up to a month or even six weeks it was before I was back in that area and I do not have that information in this file.

Q It would be a matter of a few months then; was it probably sometime later in 1963? Just give me your best idea.

A I am sure it was operating within — within several weeks of the date I first saw it under installation.

Q You said you are sure it was operating; I would like to have your best recollection as to when you saw it. How often were you going back to this dairy?

A Oh, let's see. It was sometime later in that — it was either later in that summer or the — or the fall — the fall, a few months later, but I cannot answer that question. I would have to go back and dig out my diaries and hope I — I had some diary entry. I was traveling all of central California dairies consistently; I was state-wide then as I am now, and I had frequent visits to Monterey County, where this dairy was located, and I don't have that information here, though, the dates.

Q Would it be correct to say that you had probably seen the Mission Dairy in operation by the end of 1963? I [17] am talking now about the manure flush system.

A Yes.

Q And would it be correct to say that by the end of 1963, you were aware of the similarities between the Mission Dairy flush system and that of the Piney Hills West Dairy, as representing the Ag Pro system?

A Yes.

Q Now, jumping forward to the discussion on the telephone that you had either with Mr. Hulse or with

Mr. Sakraida in 1969, and I take it it was at some time before you signed Exhibit 1, which was October 13, 1969 —

A Wait a minute. What was the question now?

Q I haven't gotten to the question. The question now is: Going to the time when you had your discussions with either Mr. Hulse or Mr. Sakraida with respect to the Mission Dairy, you were at that time fully aware of the similarities between the Mission Dairy and the Ag Pro system?

A Definitely.

Q And you testified that you mentioned that to either Mr. Hulse or Mr. Sakraida?

A Yes.

Q What was their reaction, or his reaction, whoever it was, when you told him about that?

A It was indicated to me by either Mr. Sakraida or Mr. Hulse that Mr. Sakraida made occasional trips to California and would follow up on my suggestion of — of what? Inspecting or observing the Mission Dairy.

Q Looking into the Mission Dairy?

[18] A Looking into the matter, yes.

Q Did you get any indication from either of these gentlemen, Mr. Hulse or Mr. Sakraida, that they knew about the Mission Dairy?

A I got an indication somewhere along the line that one or the other of these gentlemen had heard the term Mission Dairy but they seemed unknowledgeable beyond only having heard mention of it.

Q Do you recall approximately the size of Mission Dairy?

A Many hundreds of cows.

Q Was it classified as a big dairy?

A It would be classified as either a medium large or a large dairy. The number seven hundred cows at this

time sticks in my mind, but at that time it was an old dairy being modernized, so it was in an expansion. It was an expansion situation, so I don't know what it expanded from to.

Q You are talking now about the period 1963-4 at the dairy?

A 1963. At this point when I saw — it was July of '63, it was in a modernization expansion program.

Q And it might have been a seven hundred cow dairy at that time going to a larger dairy?

A I don't think so; I think it was a hundred and fifty to two hundred fifty cows, in that general range, going to upwards towards seven hundred was my — is my recollection.

Q At the time that you visited or the first visits that you made to the Mission Dairy after it had its manure [19] flush system, were you ever restricted or refused admission to the dairy?

A I was certainly never refused admission; restriction — I will not answer. Sometimes when we go to a dairy we are asked — led away from certain things, but we saw so many portions of that dairy that I can't say whether I was or was not. I don't — I want to say I don't think so, but I have no certainty.

Q If I understand you correctly, you do not have any present recollection as to whether or not any portions of the dairy were or were not restricted from your viewing; is that correct? You really don't remember?

A That is correct. I should withdraw that statement because now I do remember that at the first time we saw that dairy they showed us all of their new innovated systems including some innovations in the milking parlor, and because they were proudly showing us innovations it would be my presumption now

that they certainly did not — that there was no subsequent restriction because it was a show place dairy.

Q Is it correct to say then that as far as the manure flush system is concerned you were not denied any access or viewing of it?

A That is correct.

Q And as far as any of your subsequent visits to the dairy, were you ever denied any viewing of this manure flushing system or were you aware that anyone was ever denied any access to it?

A No, sir, to both parts of that question.

[20] Q You mentioned that you inspected certain milking parlor equipment which had been or was being installed in '63 of the Mission Dairy; do you recall if the Ross-Holm Company was the manufacturer of any of that equipment?

A I don't recall; I have no recollection.

Q On any subsequent visits to the Mission Dairy, have you had occasion to look at the milking parlor equipment?

A Not specifically.

Q And if I were to ask you now whose equipment is at the Mission Dairy, could you tell me?

A No.

Q Do you know a Dick Ripley who was connected with the Mission Dairy?

A Only casually.

Q And what do you know of Mr. Ripley as far as his connection with the Mission Dairy?

A I have met him on the premises and I — I presume — I am led to believe that he is — he is in a supervisorial position; whether it is as superintendent, herdsman, manager of the dairy, I do not know. It is probably one of those categories.

Q Did he ever have anything to do with the making

available, access to you of various parts of the dairy for visitation or looking? Did he have any connection with that?

A I have no recollection.

Q Do you recall whether Mr. Ripley was at the Mission Dairy at the time that you made your first visits and there was the new manure flush system?

[21] A I have no recollection.

Q Have you ever discussed with any of the Mission Dairy personnel and flush system that was installed from your observations sometime in 1963?

A No, sir.

Q At the time of your first visit, do you recall the names of any Mission Dairy personnel who accompanied you in your visit around the facility?

A No, sir. The only name I can attach at that — in 1963 would have been Herb Meyer.

Q You mentioned that the Mission Dairy was going through an expansion and was adding on to the dairy as well as getting new and somewhat different equipment; you also mentioned that they were using it as a show place. Could you explain to us a little more what you mean by that?

A A few months, perhaps — perhaps as much as a year or more prior to my seeing the dairy in '63, Mr. Meyer was in my office in Davis and indicated that he had fallen — that he had either fallen heir to the Mission Dairy through a family — through a family estate or was purchasing, I guess would be the term, the Mission Dairy from its previous ownership and he had great — he held great future in the dairy industry in Monterey County and wished to make the Mission Dairy a viable show place of dairying for the Monterey Valley. That was my first acquaintance with Mr.

Meyer and the Mission Dairy. Then when I saw the dairy first, when I saw the Mission Dairy then under — the modernization program under way —

Q Let me interrupt you for a second; did you go to

[22] the dairy prior to the modernization program?

A No.

Q All right.

A When I saw the dairy in July of '63, they had already erected a very attractive fence along Highway — U.S. 101, and with upgrading the general appearance of the dairy of the entire dairy facility.

Now, did I answer the question or did I lose my train of thought?

Q I think you have answered it. I would like to ask you this: The modernization of Mission Dairy, and let's say its whereabouts in its operation, is this something that was pretty well known to people in the dairy industry in the California area? Now, I do not know how or whether you divide the northern and southern, but I would like to get your information with respect to how well known this became among people who are knowledgeable in dairy industry.

A To my knowledge, the former Mission Dairy was not probably known outside of the county or the nearby area.

Q What is the county?

A Monterey County.

Q Thank you.

A And upon my first meeting with Mr. Meyer, we were told — I was told, pardon me, the Mission Dairy was very run down and was under threat from the State Bureau of Dairy Services of losing Grade A certification.

Mr. Meyer, through a family trust or estate situation, had to make the determination or had to choose

[23] the alternative of abandoning the old Mission Dairy or modernization and rebuilding; he chose the latter, and as I recall now there were originally two — either two herds or two barns in the original earlier Mission Dairy, and he chose to consolidate it into the one large modern facility or modernized facility.

Q Did the modernization of the Mission Dairy receive publicity within the agricultural industry?

A As I recall, it received considerable publicity in Monterey County and was acknowledged in various agricultural and/or dairy publications; but Monterey County is not a major milk producing county so as — so neither the dairy community — I should say to the dairy community of that area it received clearly statewide attention.

Q Do you have any recollection that there was any opening, public opening or announcement in connection with the Mission Dairy after they had completed the modernization that you have been talking about?

A I don't recall any open house or public display.

Q Later, and this is after the Mission Dairy had been in operation and its modernization, did it become better known in the California dairy community? Better than the previous Mission Dairy?

A Yes, yes.

Q At the time that it was modernized, to your knowledge, where would the Mission Dairy have ranked among California dairies with respect to modernization?

A I cannot say because I did not see the former — [24] the former dairy; I only heard descriptions of it.

Q I am only talking about the modernized Mission Dairy as compared to other dairies in the California area with which you are familiar; was it one of the

most modern? Or was it less? Where would it rank with respect to its —

A After the modernization, do you mean?

Q Yes. I am only talking about the modernized version as compared to other dairies at that time.

A At that time the milking area and the corral system would be much more modern than the average California dairy at that time because they had extensive use of steel and concrete construction as compared to much earthern and timber construction on the average California dairy at that time. They also put in innovations in the milking parlor including comfort features for the cows and milker and the innovative manure handling system.

Q And in your opinion was the manure handling system an innovative one?

A I am at a loss here to know how to define that innovative. I myself used it.

Q I used the term because you used it.

A Innovative in terms of what the average waste handling system was on the California dairy. It was also innovative in that it had — it integrated the wate handling system with the crop irrigation fertilization system on the Mission Dairy because the Mission Dairy is only part or a land holding of a very large land holding that was in vegetable crop production and forage — forage production. The [25] Mission Dairy was integrated with crop production and an irrigation system.

Q Would it be correct to say that the only other manure handling system like it with which you were familiar at that time was at the Piney Hills Dairy?

A I could not make that statement because there were many dairies in California who had integrated

waste handling crop production systems but perhaps not with the same embellishment as that dairy.

Q I am not talking about the manure flush system per se, but water collected, pooled and dammed and then subsequently released to wash all this; did you know of any other dairy that had such a manure flush system?

A Well, not the combination of an instant flow of water, a flush system, a collection basin and an intensively farmed — or intensive crop land area; no, I do not know of any other combination of those elements.

Q Do you recall that in March of 1973, I telephoned you concerning the Mission Dairy and as a result of the telephone conversation you prepared or you signed another affidavit, and I will show you the document which I would like to have marked as Exhibit 2.

(Whereupon the Xerox copy of the affidavit was marked by the Court Reporter as Plaintiff's Exhibit No. 2 for Identification.)

THE WITNESS:

Yes, I recognize it.

Q BY MR. KOLISCH:

And it is your signature?

A Yes.

[26] MR. HULSE:

Let me take a look at it.

Q BY MR. KOLISCH: And is Exhibit 2 factually correct?

A Yes, it is essentially factually correct, yes.

Q I think you were provided a copy of that at the time that you signed it?

A Yes, I was just looking now to see if there were any statements —

A Why don't you read it over and see if there are any statements in there that you would want to correct or change.

A Yes, I wouldn't change it.

* * * *

[27] EXAMINATION

BY MR. HULSE:

Q Mr. Fairbank, in the early part of your testimony here this afternoon when Mr. Kolisch asked you about your having telephone conversations with me or somebody representing Mr. Sakraida in 1969, and you were asked relative to saying anything to whoever it was you were talking to about the Mission Dairy, I believe you said that you thought you had a telephone conversation either with me or with Mr. Sakraida and you could [28] not remember which one; and that is still the case, isn't it?

A Yes, sir.

Q You can't remember which one?

A No, sir.

Q Well, then, to that extent is not this affidavit that you gave Mr. Kolisch on the 13th day of March, 1973, where you specified me, at variance with your recollection?

A Not necessarily because there are some periods of months that have gone by plus some additional questions and discussion has come up now that has tended to — tended to confuse certain recollections.

Q Well, it is true, isn't it, Mr. Fairbank, in trying to

call exactly what was said in various conversations you may have had with a person, or with several persons three or four years ago, it is not easy to remember, is it?

A Certainly some things stand out more clearly in our minds than others, and I think I have indicated when there was doubt in my mind and when there was no doubt in my mind. I don't know if I have answered your question.

Q Well, let me go back because I do not believe you gave me a direct answer to the question that I asked about.

You have just reconfirmed your statement that you couldn't remember whether the telephone conversation that you think you recall was with me or was with Mr. Sakraida.

A At this time I am recalling perhaps three telephone conversations; I cannot "singulate" them out.

Q With whom?

A With you, or Mr. Sakraida, or either of your agents [29] whom I may or may not have talked to. I don't know if my —

Q Well, who would the agents have been by name? Can you name anybody?

A No, I cannot name any names.

Q Because you don't know of anybody?

A Well, all right then, I said that because I don't know — I know that I had several conversations with you and/or with Mr. Sakraida and if it were your agent it would be your law partner or some party connected with Mr. Sakraida; I do not have any name, though, to offer in that regard.

Q And so it is your testimony here that you think

you told either me or Mr. Sakraida that there was a flush system up at the Mission Dairy?

A Read that question back.

(Record read.)

THE WITNESS:

I would say yes to that.

Q BY MR. HULSE: Well, your present recollection is you would not be able to say whether it was Mr. Sakraida or me to whom you were talking when you so stated?

A Well, that question is out of context because I don't know what specifically the telephone conversation is that is being alluded to here; I don't know which of the telephone conversations it was in reference to without starting this over very clearly.

Q Well, let me ask you this about your recollection: Any telephone conversations that you had with me were relatively short, were they not?

A Yes.

[30] Q In the neighborhood of five minutes or something like that?

A I think so.

Q We never had any extended telephone conversations, did we?

A No, sir.

Q And you do not actually have a specific recollection of just what you did tell me, at least in any telephone conversation, do you?

A No, sir. I would call to the attention here that on the bottom of my affidavit of — what? The 13th, March, I referred to telephone conversations in the plural, and my memory is refreshed now to the extent that in telephone conversations, plural, without referring to

a specific telephone conversation, I do not recall mentioning the Mission Dairy to you, because to my recollection I mentioned it to you at some point in time before that. I remember mentioning it to both you and Mr. Sakraida, but I do not know at which relative sequence.

Q Well, let me ask you this now: You have said in answer to questions by Mr. Kolisch something about that the system that was there at the Mission Dairy is a water flush system having some similarity to that covered by this Ag Pro patent; is that correct?

A Yes.

Q And did you mean by that that it had a dam for impounding water on the floor of the dairy?

A Yes, and the essential or the important feature [31] was of a — a relatively rapid flowing of a large volume of water.

Q Well, I do not like to belabor this, Mr. Fairbank, but I do want to get this right. You wrote me a letter on October the 8th, 1969, about that, didn't you?

A Did I? October 8, '69? Yes, sir.

Q And you said there that you could not cite me the use of a tilt bucket or a dam for impounding water on the floor, didn't you?

A Oh, what was that in reference to, however? Let's see. That is right, what I said.

Q And as a result of that, when this affidavit was signed by you, this Exhibit 1 that you have here, the affidavit that you signed dated the 13th day of October, 1969, you did not refer to the Mission Dairy, did you?

A I did not refer to the Mission Dairy here? Let me see. This was —

MR. KOLISCH:

October 13, 1969.

THE WITNESS:

October 13, after this letter; no, I did not.

Q BY MR. HULSE: And the essence of your letter of October the 8th, that the only places that you can cite me about flowing water to clean a barn floor is that of Weed, Lodi, and Bishop, and that was the ones mentioned in your affidavit.

Just look back at your letter of October the 8th, and that is correct, isn't it?

A Yes, sir.

[32] Q And that is what you told me in writing and that is what you told me on the telephone, isn't it?

A Yes, sir.

Q You did not say anything about the Mission Dairy, did you?

A No, sir.

* * * *

Q When I asked you if you did not tell me in the telephone conversation when you called me back on March 27, 1973, after you had looked at your copy of this letter of October 8, 1969, and say that you could not say that you had said anything to me about the Mission Dairy?

A If I understand the question correctly, I would not [33] agree because in my phone call to you on the 27th, I have it noted here that the Mission Dairy was presumably mentioned in one or more of the twenty-one letters mailed to Hulse, June 27 of '69, but that was a — not of our telephone conversation, at or after the

telephone conversation, and I — personally can't attach great significance to it; it is just a log of the telephone conversation, really.

* * * *

[34] THE WITNESS:

This is the one that was — let's see, October 8, '69. Okay. Yes, this was to my knowledge at this time, at the time of this letter — let's see. This was the affidavit of — excuse me, the 13th of '69. Let's see, does that say Weed, Lodi, and Bishop? Yes, yes.

[35] Q And if you told me over the telephone you sure told me different in writing in that letter, didn't you? About the Mission Dairy. That you said you could not cite any other places?

A I think the — I am a little bit here — I see part of the problem in that a citation is one thing mentioned in passing, or a casual allusion to something I would consider something rather different than a specific citation.

Q Well, I suggest to you that somebody came down and talked you into giving this affidavit and got you kind of in a box as compared to that first affidavit and that letter of October the 8th, didn't they, Mr. Fairbank?

A I do not think so, but —

Q Well, I am not boing to labor it any further.

A This correspondence, these affidavits are all to the best of my —

Q I would assume that; I don't attach anything else to it, but we get back to the point that one's recollection is necessarily not always exact, is it?

A I will agree with that.

Q And it is also possible that there can be errors in one's recollection?

A Certainly the Bishop, Lodi, and Weed situation, or installations were the only ones I could attach names, dates, and precise detail to. My notes on the Mission Dairy are accurate; I have got diary records at the office on those visitations. Just things about the water flush system in the dairy business generally.

[36] Q Mr. Fairbank, water flush systems of one kind or another to clean a dairy barn floor are old in the dairy business, are they not?

A I think the Hal Higgins' collection at Davis has reference back probably to the turn of the century or earlier on it.

Q Hal Higgins does?

A Yes.

Q I did not know that.

A He has the most complete library on dairy mechanization in the country; it has been given or sold to the University of California.

Q And where is Mr. Higgins?

A Mr. Higgins?

Q Do you know his address or where he lives?

A Yes, Mr. Higgins resides at Woodland, California, in a convalescent home.

Q Is he retired?

A He is retired. He is about ninety years old and is in failing health.

Q And this collection he had has been sold to whom?

A University of California.

Q At Berkeley?

A Davis. At Davis. It is housed in — now it is in the general library and is referred to as the Hal Higgins — Hal Higgins' collection —

Q Oh, I see.

A — on agricultural mechanization; it is the most [37] complete agricultural mechanization library, apparently, in the country.

Q Does anyone in particular have charge of it or just the library generally?

A There is a specific librarian in charge of it. Mr. Higgins is still of sound mind but he had to have a limb amputated recently and he still is — he still gets around out in the field when he is able; and he is still of sound mind and he always likes to talk about this topic, and certainly he — if you go visit him, as I did in this matter several years ago —

Q I am not familiar with California; where is Davis?

A Fourteen miles west of Sacramento. Sacramento is essentially in the —

Q I know where Sacramento is.

A Now, Mr. Higgins knows this whole thing. I'd just say my goodness he has written for the Old Pacific World Press, some other Chicago agricultural magazines on water manure flushing up into the north coast dairies and adjacent to the Oregon coast quite early in the century, probably about — I'd say probably in the 20's or early 30's.

Q From your research do you know anything about the history of those things back to the turn of the century?

A Only what I have heard from discussions with Mr. Higgins and Mr. De Carlie. I think Mr. De Carlie may be now deceased. Mr. De Carlie lived ir Stockton. Mr. De Carlie is the one that has introduced some of these modern dairy concepts several decades ago.

Q How far back does your own investigations

show you [38] that there were water flush systems used for this purpose?

A My own investigations or observations?

Q Either one.

A Observations about — about '61, perhaps 1960. By reading and with discussions with old-timers, it is obvious that dairy cows and dairy standing platforms were hosed down to collection sumps lower than the concrete back several decades prior to that. There are many old blueprints in the University's files showing concreted cow standing areas with sumps at the bottom and fire hoses, in effect, to wash the manure, hose the water down, in the 20's, but — so there I think we — we are hung up on what we interpret as flush out —

Q What water flush systems were there, say, prior to 1960 other than by the use of a hose?

A There were flush out systems if you go back and read *Hoardes' California Dairyman* you will find reference at least as early as 1957 on flush out systems.

Q Yes.

A The information apparently wasn't available to the patent examiner when he granted this patent.

Q One has to read what? I did not catch those names.

A I said if you go back and read Hoardes Dairy — H-o-a-r-d-e-s, *Hoardes Dairyman;* it is published in Indiana or Wisconsin, which is it? Wisconsin. It is basically a bimonthly. Does that mean twice a month? It is —

Q Bimonthly is every two months; semimonthly comes twice a month.

A *Hoardes Dairyman* is more or less the bible of the [39] American dairy industry.

Q It is a magazine?

A Magazine.

Q Published by —

A Well, what is it? *Hoardes Dairyman*. I might have a reference here. It is published in — humph, Wisconsin, I think, and it had — I know it had articles on manure flushing systems. One was brought to my attention back in — sometime in 1957, in one of the issues of, I think, *California Dairyman*, or *Western Dairyman*, but I don't know which — carried an article back in the late 50's.

Q When you say flush out system, can you tell us or would you describe the kind of a system that was referred to?

A Using a big flow of water across the floor — or, pardon me, down a cow standing platform.

Q And you know how that water was introduced onto the floor of the dairy?

A One was from a tank, as I recall, humph. One of the articles — one magazine talked about the use of a tank to hold this water; the other one, I think, had alfalfa — piped out on alfalfa. I would not want to be quoted, but the point is that it is my — it is my impression now that these things were — that those stories were not brought to the attention of the patent office.

Q Now, what was this one? Well, is it your recollection and opinion that these flush out systems that were referred to back in 1957 used a tank and were quite similar to the Ag Pro patent device?

[40] A Very similar, yes, sir.

Q Who has the file of these papers? Are they to be found there in this collection of Mr. Higgins' that you said were given or he sold them to Davis?

A Hal Higgins; the Higgins' Library. I don't think

— I don't suppose he has those in his collection, but those magazines are both still in print and they are available from the editorial offices.

Q Oh, yes.

A I do not think I have either of those magazines with me. I would have to get their editorial offices, and so forth, from — from my office, or refer you to somebody that has them.

Q You are familiar with these flush systems or wash out systems that several dairies have up in the neighborhood referred to as Lodi, Weed, and Bishop, in California?

A Yes.

Q Now, those were done by the use of adjacent streams, were they?

A Only the Weed was an adjacent stream; the one in Lodi used irrigation water out of an alfalfa pipeline system — just flowed up in the barn and out the back in the irrigation system, and the Bishop — Bishop I think was alongside an adjacent stream, and they just cut the stream through the barn.

Q Do you recall that they used a weir in doing that at any of these places?

A Both the Weed installation and the Lodi business, [41] that installation used a weir; in other words, they channelized the small stream right alongside the dairy barn so the manure would go out. They dropped a sheet metal weir across the stream and cut it into the barn, and they would bring the cows in.

Q Did they have a weir to stop the stream and did they have another one then to direct the flow of it into the barn?

A They didn't; it just took one weir to stop the stream. That sort of backed up the stream. The stream

then flowed up this Y arrangement through the barn.

Q Yes. So that it diverted this water directly into the barn and it flowed down the barn floor and out the lower end?

A Uh-huh.

Q That is essentially like all these flush out systems, the use of the gravity flow of water in order to run the water over the floor and wash it out?

A The mechanics of it, of that aspect of it in flushing operations, yes, are very similar if not precisely the same. That is why I was disturbed at certain features of the patent and that is why I was one of the persons who said that patent needed to be examined in the light of — because already there was a lot of prior history of that concept.

Q Well, it was your opinion, was it not, Mr. Fairbank, that there was a lot of the same old things and the same old ideas being used, was it?

A Many of the same things.

[42] Q Many of the same things, and that this use of the gravity flow of water to wash the barn floor wasn't new.

A Yes.

Q And isn't the use of gravity water for flushing down manure from concrete, cows' standing area, almost as old as dairying in California?

A Yes.

Q And it was long before 1963, and at times the water had been obtained by collecting it in some kind of a pond? Pool? Tank? Or whatever?

A I am hesitant to answer that question because I don't know where the difference between, frankly, a stream, a ditch, a pond, a tank is; kind of a vague demarcation between those different hydraulic devices.

Q But there are different means of collecting enough water at one place so it can be released?

A I want to say collecting water without specifically defining whether it was a static collection or a moving dynamic situation; that is where I think we get hung up.

Q Let's see, collection of water; then, let's say collected water.

A Yes, it has been long used.

Q Long before 1963, hasn't it?

A My goodness, yes.

Q It goes back, at least, to the turn of the century, do you think?

A The Hal Higgins' collection would indicate it goes certainly back towards the early California dairy; I wouldn't [43] say, specifically, turn of the century but for quite early this century dairies were using hoses.

Now, see, there is my point. When is the hose stream collected water? It is — that is what we are hung up on, I think. I mean, a hose stream is coming out of water standing somewhere, a pressure tank, so whether it is dynamic or static, I don't know.

Q The Ag Pro patent used a drop gate in order to release this water on the barn floor?

A And also a tilt bucket they had.

Q They had both in it?

A Both.

Q And I believe you heretofore expressed your opinion that drop gates and tilt buckets both are old in use, long before '63?

A For other purposes.

Q But there is nothing new about a drop gate, is there?

A Nothing.

Q But a drop gate there is nothing new, and the tilt buckets have long been in use for one purpose or another?

A Yes.

Q And the same thing can be said, generally speaking, about putting water in any kind of a tank whether it is made out of metal? Wood? Or concrete?

A I suppose.

Q The fact is they have been used on farms or ranches for — well, going back to the first of the century again.

[44] A They have been used on farms and ranches, generally speaking.

Q Well, they have been used by dairymen —

A Nobody is questioning that.

Q And you agree to it then?

A Yes.

Q Some dairy farms for long long years prior to 1963 had used a drain with a grading on it, so forth, manure to drop in, had they not?

A Yes, it was required by State law.

Q And had turned the water onto the drain then to wash the drain out, was the way they devised it in many of these instances?

A Variations of them are required by the state for Grade A certification.

Q Which was one way of doing it. It is one kind of a manure flush system although it was not on the barn floor level?

A I assume the drain would be a little below the level.

Q Yes. The drain was normally referred to as the gutter in the dairy barn itself?

A Yes, it was below the general level of the slab or the platform.

* * * *

[45] Q Do you know where these manure flush systems have been used? Where they are done by releasing water abruptly from some kind of a tank, or they hose it down by some hydraulic system, or they have a gate and open the gate; do you know about that?

A The only one I can think of, even a manually operated gate — I can't think of a hydraulic gate for flushing manure — it is a pull cable though from the barn out to the gate, but I can't remember any hydraulic or circuit mechanisms.

Q It is true, is it not, Mr. Fairbank, that — I am relating my time now to prior to 1963 — that the use of [46] flowing water even in sheet form for cleaning off barn floors was not new?

A That is correct.

Q And that the use in dairies —

A To use a sheet form is a hell of a poor term. Pardon me, I would not want it on the record, but the sheet form, what is a sheet of water? How is that defined? That is — that is one of those unfortunate words.

Q Well, it may be, but it has been used that way and that is the reason I used it. I want you to explain or tell me what it is for the record here.

A Well, to me when I turn a fire hose down a floor to hose a floor off, it fans out and makes basically a sheet of — sheet flow of water, or if you have a drop dam twenty feet wide, a drop that — that means a drop more or less level set, so I think it is kind of a rather ambiguous, if not nondescript, term —

Q Yes.

A — could lead to some misunderstanding.

Q And the use of dams in manure gutters was also not new at that time?

A Oh, I would have to say no, having seen those installations up in both Weed and Bishop.

MR. HULSE:

I don't believe I have any other questions.

EXAMINATION

BY MR. KOLISCH:

Q Mr. Fairbank, would it be fair to say that you [47] have been for some time unfriendly toward the Gribble and Bennett patent?

A I would have to say yes, I have been unfriendly with the patent since it was brought to my attention because of my prior knowledge of the state of the art.

Q So, to that extent it would be fair to say that you would be a hostile witness towards the Gribble and Bennett patent; would that be fair?

A That would be a fair statement.

* * * *

[50] Q You were testifying in connection with a series of questions that Mr. Hulse was asking you with respect to prior art flush systems which you consider very similar to the patented Ag Pro system.

A Yes.

Q Wasn't the substance of this information provided by you to Mr. Hulse in 1969?

A To my knowledge, yes.

Q Can you identify those twenty-one letters which you sent to Mr. Hulse?

A No, I — like I say, it was this — it was — where in this section of that file that is, all I can say is I can't specifically identify them.

Q There isn't any way of your looking through that file now and telling us which ones you did send to Mr. Hulse and which ones you didn't?

A No.

Q Is there any way of determining whether in anyone of those letters there was any mention of the Mission Dairy?

A Oh boy! Yes, here is one right here, June of '68.

* * * *

[54] Q Well, I informed you in the correspondence, or telephone conversation, that the defendant had submitted an affidavit from Mr. Meyer of the Mission Dairy who said that he first talked to Mr. Sakraida in January of '73.

A Okay. Now, establish now — what was —

Q Now, my question is: Did you, after I had discussed the matter with you, then volunteer the information that, in fact, you had told Mr. Hulse about the Mission Dairy in your conversations with him prior to your signing the first affidavit?

A I am with you. Yes, I would answer that yes to that.

Q That was not something I told you; this was something that —

A Right, that is — I am agreeing to that subject, to subject to — or rather in light of what Mr. Hulse brought up a little while ago. There might be some

question here of it as to whether I brought this to Mr. Sakraida's attention, or his attention, or if, in fact, I ever wrote to anybody, so subject to that cross examination I would agree to it.

Q As a matter of fact —

A In other words, I agree that I told you, yes, in March, that I had brought the Mission Dairy to the attention of Mr. Hulse.

Q As a matter of fact, weren't you having most of [55] your negotiations or conversations with Mr. Hulse with respect to the affidavit that you were going to submit?

A Yes.

Q Is there any reason that you would not have told Mr. Hulse about the Mission Dairy in the course of a five minute conversation, if that is the longest conversation that you had with him?

A I don't know.

Q There is no reason why you could not have told him about the dairy in a conversation of five minutes?

A Yes, I would say yes to that question; no reason why I could not. That is correct.

Q The fact that you had brief conversations with him would not have precluded you from telling him about the Mission Dairy?

A No.

Q Do you recall in the course of the conversation that we had in March of '73, I mentioned to you that in your October 13, 1969 affidavit you had not made any reference to the Mission Dairy, and I asked you about this. You told me that, as a matter of fact, you were rather surprised when this affidavit was finally submitted to you that there wasn't any reference to the Mission Dairy after what you had suggested to Mr.

Hulse; it was a potentially good field of investigation.

A (No audible response.)

Q If you have lost the question, maybe she can read it.

[56] A I think I have it.

Q Did you follow the question?

A And I know I was — I would answer yes to that question.

Q At this time is there any question in your mind that in October, 1969, you told either Mr. Hulse, or Mr. Sakraida, or possibly both of them about the existence of the Mission Dairy?

A Well, I am agreeing with your — your viewpoint there, your question. I am not sure whether you had the preposition "not" in that sentence or not, earlier back, so I do not know whether that calls for a yes or no answer.

Q There isn't any question in your mind that you —

A Yes —

Q — that you talked to one of them, or the other, or possibly both of them about the Mission Dairy flush system?

A Yes.

Q My statement is correct?

A Yes, your statement is correct, and I am not sure though how — whether it was phrased in the positive or negative.

Q You were asked a series of questions with respect to elements of the prior art which included various flush concepts, and if I understood your testimony correctly you agreed that as far as you knew prior to the Gribble and Bennett patent application you knew of the various elements called for in the claims with the exception of a dam construction in the

dairy itself where the water was collected as a pool on the [57] floor, or above it, and that that was used as a flush means.

A Yes, I agree with that statement, yes.

Q That is the one element you were not able to find in the prior art; everything else you were able to find?

A That is the only element I was not aware of was a drop dam on a dairy floor for purposes of impounding the water for that reason.

* * * *

EXAMINATION

* * * *

Q BY MR. HULSE: Well, let's put it this way: In [58] view of the state of the art and what was known among various dairy people, there wasn't a thing particularly new about it, was there?

A Rather than answer yes or no — excuse me, the drop dam we just spoke of I would consider new. That feature, yes. Everything else, no. That is why I say it — I can see that one innovative feature, but that is the only innovation in it. That has been my position all along. That has been my position from the time I first read the patent application and the subsequent patent granting it. It was much too broad and that is why I was — to use your word — hostile towards the patent.

Q And in what respect do you think it is too broad, Mr. Fairbank?

A Well, basically a patent of running water downhill, putting — cows standing on concrete, using the flowing water as a method for cleaning the con-

crete, these were all prior art which were apparently not brought to the attention of the patent examiner.

Q In —

A And I also conceded and the record will show that I had admired Mr. Gribble's innovation of a drop dam.

Q Now, when you say a drop dam, that essentially is a drop gate, is it not? As a means of —

A I suppose.

Q I have taken that word off one of your letters, so I think we ought to have a report on that, about that term drop gate.

[59] A Okay.

Q And as you have heretofore said, a drop gate, itself, is old; there is nothing new about that.

A That is right; a drop gate itself.

Q So, the only thing that could possibly be new in line of what you have just said would be the fact that they took an old drop gate and put it over here to release this water?

A That to me was innovative.

* * * *

Plaintiff's Exhibit No. 2

[Title Omitted in Printing]

AFFIDAVIT OF W. C. FAIRBANK

STATE OF CALIFORNIA
County of Riverside

W. C. FAIRBANK, being duly sworn deposes and says:

I am the same W. C. Fairbank who submitted an affidavit in the above-entitled case on October 13, 1969 and I am still employed as Extension Agricultural Engineer, Agricultural Extension Service, University of California, Riverside, California.

In the mid 1960's I was quite familiar with the Mission Dairy and its manure flush system, as I was actively traveling that area and visited it on several occasions.

My prior affidavit was prepared as a result of telephone conversations with Mr. Sakraida's attorney, J. F. Hulse. The dates of those conversations were slightly preceding the date of execution of my affidavit on October 13, 1969.

In the course of my telephone conversations with Mr. Hulse, I specifically told him about the existence of the flushing system at the Mission Dairy, which I considered to be similar to the patented Ag Pro system. I suggested to him that someone should investigate the date on which the flushing system at the Mission Dairy went into operation because it might be prior to the Gribble and Bennett invention. Mr. Hulse acknowledged the information and said that he would relay it to his client.

/s/ W. C. FAIRBANK
W. C. Fairbank

Subscribed and sworn to before me this 13th day of March, 1973.

/s/ MARION L. MEAD
Notary Public in and for the County of Riverside, State of California
My commission expires:
(SEAL) July 13, 1975

Defendant's Exhibit No. A

University of California
Agricultural Extension Service

Riverside, California 92502 October 8, 1969

J. F. Hulse, Attorney-at-Law
Scott, Hulse, Marshall & Feuille
11th Floor — El Paso National Bank Bldg.
El Paso, Texas 79901

Dear Mr. Hulse:

Apparently our letters crossed in the mail.

I like this revised affidavit better. Please note that I have crossed out several words and statements to make it correct. I can only cite prior use of flowing water across barn floors for the purpose of flushing away manure — not the use of a tilt bucket or a dam for impounding the water *on the floor*.

I hope this clarification is helpful.

Very truly yours,

/s/ W. C. FAIRBANK
W. C. Fairbank
Extension Agricultural Engineer

WCF:acb
enc.

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[59] ORDER

[Title Omitted in Printing]

Filed: Feb. 7, 1974

On this 7th day of February, 1974 came on to be considered a Motion For New Trial on newly discovered evidence pursuant to Rule 60 (b) (2) F. R. Civ. P. and the opinion of the Fifth Circuit Court of Appeals on Petition for Rehearing. (See *Ag Pro, Inc. vs. Bernard A. Sakraida*, ____ F.2d ____, 5th Cir., June 25, 1973, NO. 72-1108) In that opinion, the Court of Appeals ordered this Court "to hear and determine said motion before proceeding on the issue of infringement. The District Court will then certify to this Court the entire record, including its opinion and order and the testimony taken on the new trial issue."

In accordance with this mandate, briefs have been filed by the parties and studied by the Court and a full evidentiary hearing held on the matter. As a result of

the hearing the Court finds for the reasons stated herein that the Motion should be granted. The testimony adduced from witnesses for the Defendant in support of the Motion for New Trial would, standing alone and unchallenged by opposing evidence, overcome the presumption of validity of Patent No. 3,223,070. This testimony clearly shows that the "flushing system" in question was not new nor novel and does not meet the nonobvious test under 35 U.S.C. 103. The evidence is replete with references to the prior art of similar, if not identical, "flushing systems" that suggest to the Court that the applicant's claim was anticipated by those of ordinary skill in the art.

The Court further finds that the defendant did in fact exercise the due diligence required under Rule 60 (b) (2) and that the evidence presented to the Court at the hearing could not have been discovered in time to move for a new trial under Rule 59(b). In fact, the evidence clearly shows that the names of witnesses and the nature of their testimony was discovered purely by chance by the Defendant himself at a meeting in January of 1973 by Mr. Herbert G. Meyer. Mr. Meyer and all Defense witnesses presented at the hearing testified they had never been aware of the litigation of the case at Bar at any time prior to this meeting.

In light of the foregoing, it is ORDERED, ADJUDGED and DECREED that the Motion for New Trial should be and the same is hereby and in all things GRANTED in that the evidence compels a rehearing of the issues and questions raised and that such evidence was not available to the Defendant in spite of the diligence exercised during the initial discovery of this cause.

It is FURTHER ORDERED that the expense of this proceeding along with the cost of furnishing the Court of Appeals the entire record and this order and findings shall be borne by the Defendant-Movant, but will be taxed as costs pending the final outcome of this cause.

ENTERED this 7th day of February, 1974 at El Paso, Texas.

/s/ JOHN H. WOOD, JR.
JOHN H. WOOD, JR.
UNITED STATES DISTRICT JUDGE

TRANSCRIPT OF PROCEEDINGS
OF FEBRUARY 7, 1974

[Title Omitted in Printing]

Filed: June 24, 1974

[19] BERNARD A. SAKRAIDA,
the defendant, called by the plaintiff, having been first cautioned and duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

DIRECT EXAMINATION

* * * *

[21] QUESTIONS BY MR. HULSE:

Q Would you state your name, please?

A Bernard A. Sakraida.

Q And where do you live, Mr. Sakraida?

A Okeechobee, Florida.

Q In — I'll ask you, are you the same Bernard A. Sakraida who is the defendant in the case of Ag Pro Inc. versus Bernard A. Sakraida pending in this court?

A Yes, sir.

Q And how long have you lived in Florida?

A About three years, approximately.

Q Mr. Sakraida, I will ask you whether or not sometime [22] after you moved to Florida, did you hear anything or not about the Mission Dairies in Gonzales, California in connection with possible information in connection with this case?

A Yes, sir, I did.

Q Could you tell us what you hear?

A I heard they had some type of flush system similar to what we are talking about today.

Q And did you — You were in Florida?

A Yes, sir.

Q Do you know where you got that information?

A No, I don't, but someone either a dairyman or someone that I knew told me about it.

Q And did you make any effort then to see what the situation was over at the Mission Dairy in Gonzales, California?

A I asked Mr. *Wisdon* who lives in Medford, Oregon, when he came down through the area would he stop and check it for me and see if he could find me any information.

Q What business is Mr. Wisdon in?

A He is the sales representative for *Ross-Holmes* Dairy Equipment.

Q And did he travel that area?

A He travels all over the United States.

Q And did you get a report back from Mr. Wisdon then about [23] his effort to find out what they have there at the Mission Dairy?

A Yes, sir. He told me that he went to Mission Dairy and talked to the general manager of the dairy farm, and his name was Dick *Ripley*. And Mr. Ripley said that he was not at liberty to give information and did not want to get involved.

Q Thereby, did you gain any information or obtain any information then from the Mission Dairy as to what they had in the way of a flush system?

A No, I did not.

Q And your understanding was that Mr. Ripley said that they would not disclose it because they don't want to get involved?

A That's what I understood.

Q All right. I will ask you whether or not that's the only information that you have had about the Mission Dairy in this connection.

A Up until that date, yes, sir.

Q And, you have seen of course attached to the response to appellant's petition for rehearing and telegram that was dated in March of 1973 from Mr. Frank *Sousa;* did you know anything prior to that time about Mr. Sousa's dairies or operations?

A I just knew that Mr. Sousa built dairy buildings.

[24] Q Did you know what kind of dairies they were or what they had in the way of a floor-cleaning system?

A No, I did not.

Q I will ask you whether or not at the time this case went to trial in September of 1971, did you know of any dairy at that time that actually had a floor-cleaning system that used a drop gate for the purpose of washing the floors off?

A Prior to 1971?

Q Yes, prior to the time this case went to trial in 1971.

A Well, *Dawn* Dairies has them.

Q Dawn Dairies? Who had built that one?

A I had built it with Ag Pro.

Q But this was a Gribble Dairy, Mr. Gribble's dairy?

A Yes, sir.

Q And when did you build it?

A Let's see, I believe it was 1966.

Q Well —

A Or '67.

Q Did you know of any others?

A Well, I —

Q Let me put it this way, because we can cut off some of these later ones, did you know of any that were in existence prior to November 1963?

[25] A They had a similar one up at Piney Hills.

Q Have you seen it?

A I went up to see it during the time I was building —

Q When was this did you say?

A During the period of 1966 to '67.

Q Who built that dairy?

A I don't know. I think that Ag Pro did.

Q You think it was Ag Pro that — the Plaintiff here?

A I think so, yes, but I'm not sure.

MR. HULSE:

I believe that's all.

CROSS EXAMINATION

BY MR. KOLISCH:

Q What was the date, Mr. Sakraida, on which you first got information concerning the Mission Dairy?

A The date?

Q Yes, sir.

A I believe I was in Florida, I believe it was in 1971.

Q What month?

A I don't remember.

Q From whom did you get that information?

A That I testified before I don't remember whom I got that information from because I talked to a lot of dairymen and a lot of dairy builders and a lot of people who [26] traveled throughout the country, and I got their information, and the reason I asked Mr. Wisdon to get it for me.

Q Specifically what was the information that you received?

A As I testified before, that they had some prior, similar type of flush system prior to Ag Pro —

Q Did you consider that to be an important piece of information?

A I considered it to be important if there was anything there, yes, sir, but I didn't know what was there.

Q Did you communicate that to your attorney?

A Yes, we discussed it.

Q And you did mention to Mr. Hulse that there was this Mission Dairy which someone told you had a similar flush system?

A I told him that Mr. Wisdon had told me that the —

that the foreman would not give the information out concerning any parts of the flushing system.

Q Did you inquire from Mr. Hulse whether it was possible for you to obtain that information?

A I believe about that time we had a summary judgment against it, and there wasn't any need for me to pursue it any further.

Q You don't mean against you?

A Against you, yes, sir.

[27] Q But you did discuss with Mr. Hulse getting information concerning Mission Dairies.

A I don't recall just exactly what we did discuss, on the Mission Dairy. I was —

Q Did you know of any other piece of prior art information that was more pertinent than the Mission Dairy?

A I couldn't answer you that, because I don't know how pertinent the Mission Dairy was up until now.

Q Well, you had heard —

A I didn't know anything about it, even that they had a flush system.

Q Yes, but you had heard that they did have a flush system, didn't you?

A Sir, I hear a lot of things about people doing certain things with dairies like taking out equipment and putting it back in. Some of those things you just have to overlook. I mean some of them are true and some of them are not true.

Q Did you discuss the Mission Dairy with Mr. Fairbanks in 1969?

A No, I did not.

Q Your testimony is that at no time in 1969 you had any discussion with Mr. Fairbank concerning the Mission Dairy?

A I don't recall having discussed it with him in 1969 [28] about Mission Dairy.

Q At any subsequent time did you have any discussion with Mr. Fairbank?

A Not that I recall.

Q Did you have any discussions with Mr. Hulse concerning any discussion that he had of the Mission Dairy with Mr. Fairbanks?

A Seems to me like most of the discussion we had was about . . . (inaudible) or some other place.

Q Did Mr. Hulse ever tell you that Mr. Fairbanks had suggested that Mr. Fair — that Mission Dairy was a prior art that should be investigated?

A I don't recall that, either.

Q Did you know Mr. Fairbank in 1969?

A I knew Mr. Fairbanks before 1969. I had met him in northern California.

Q And you knew Mr. Fairbanks as what, you knew him in what capacity?

A I don't think I would know him if he walked in this room.

Q I am talking about his position.

A Well, —

Q Do you know what his capacity was?

A Well, the only capacity I know of, he wrote certain articles in magazines concerning the Department of [29] Agriculture, and so on.

Q You knew he represented the Agricultural Extension?

A Yes, he was in Agricultural Extension, certainly.

Q And isn't it a fact that Mr. Fairbank was cooperating with you, that is, as defendant in this case, in trying to invalidate the Gribble and Bennett patent;

isn't that a fact? Didn't he submit an affidavit in October 1969 on your behalf?

A Yes, I believe he did.

Q And where did you get that affidavit? Or how did you get that affidavit, rather?

A I don't really know how we got that affidavit.

Q Didn't you talk to Mr. Fairbanks in connection with getting that affidavit?

A You're talking about a long time ago. I don't remember how we got the affidavit, whether it was sent to us or how we got it; Mr. Hulse took care of it.

Q Mr. Hulse must have found about it, about Mr. Fairbanks, from someone, and I am trying to find out whether you were the one who told about this Mr. Fairbanks.

A Well, I probably did tell him about Mr. Fairbanks, because he wrote articles in the magazines all the time.

Q Well, doesn't this help refresh your recollection that in 1969 you would have discussed this case with Mr. Fairbanks?

[30] A This case, perhaps, but not necessarily the dairies.

Q That's what I want to get to, what do you remember of your discussions?

A I didn't talk to Mr. Fairbanks about this case directly.

Q Well, you say you didn't talk to him directly; what does that mean?

A Well, I talked — I had Mr. Hulse talk to him.

Q Well, didn't you tell Mr. Fairbanks that Mr. Hulse would be in touch then with him?

A I could have done that very easily.

Q Well —

A But I don't recall whether I phoned or how it came about.

Q And do you recall that Mr. Fairbanks told you that he would assist you in trying to invalidate the Gribble and Bennett patent?

A I recall something of that nature; he said sometime that he would if he could.

Q And do you recall that he provided you with information which he thought might invalidate the Gribble and Bennett patent?

A I don't know that he put it that way.

Q Well, let me ask you —

A I don't recall him putting it that way.

Q I didn't say whether he put it that way, but I just [31] asked you whether you recalled, without saying what the information was, that he provided you with information with respect to what he considered to be prior art dairies?

A I honestly don't know whether — I don't know what he provided us with that I can recall right now to tell you.

Q What were your other sources of information in 1969 concerning prior art?

A I don't recall any other sources.

Q I'm sorry, I can't hear you.

A I don't recall any other sources.

Q So Mr. Fairbanks was your principle source of prior art?

A Well, I don't know whether he is a principle source of prior art or not, since I don't know whether or not any of these dairies he is talking about had anything to do with this.

Q Do you recall anybody else who told you about other dairies?

A No, sir.

Q So the only one you recall is Mr. Fairbanks?

A I recall Mr. Fairbanks.

Q Why did you select Mr. Wisdom to go to the Mission Dairy?

[32] A Because I know he goes everywhere and I've done things for him. We check out something in a different territory — it's a long way from Florida to California, and I was right in the middle of a job and it was very difficult for me to get away, and I didn't think he would have any problem.

Q Why didn't you think he would have any problem?

A Because they had Ross Holmes Equipment there.

Q It is a fact that the Mission Dairy had bought Ross Holmes equipment?

A Not as you know it today.

Q I am talking about in 1969, as of 1969.

A It was a different type of Ross Holmes equipment.

Q But it was Ross Holmes equipment?

A A star lines installed, made by another manufacturer.

Q Now isn't it a fact that when someone has installed equipment in a dairy that he is a representative, he can always have access to such installations?

A Well, are you referring to Mr. Wisdom?

Q Well, I am referring — you are in the dairy business —

A Are you referring now to me, or to Mr. Wisdom?

Q I am referring to you and your general knowledge of this business.

A You mean if I worked for Mission Dairies?
[33] Q If you installed equipment and you wanted to take a look at the dairy, would you be denied access?
A Depends on if there was something coming on a patent like this, I don't know.
Q Have you ever been denied access to a dairy where you installed equipment?
A I always asked the owner; I don't just walk into a man's house.
Q I am asking you whether you have ever been denied access to a dairy where you installed equipment.
A No, I have never had any trouble with any dairyman where I installed equipment.
Q What is the business relationship that you have with Mr. Wisdom?
A We don't have any direct business relationship with each other, any more than I have with anyone else who sells dairy equipment.
Q And do you buy and have you bought over the years much Ross Holmes equipment?
A I have never bought equipment from Ross Holmes.
Q Have you bought equipment from Mr. Wisdom?
A No, sir.

* * * *

Q After Mr. Wisdom told you that he had been denied access to the Mission Dairy, what did you do?
A I don't remember the dates or anything, I don't recall exactly what did happen. It seems to me like we had a summary judgment. After that, and there was no reason to pursue it any further.

Q Did you record the summary —
A He is the one that got it.
Q I am talking about the fact that Wisdom had been denied access.
A I don't recall exactly what I did.
Q Now —
A But that was sometime after I had asked him, because it [35] was quite awhile before he got back in from the West Coast, because he was at that time on the East or Southwest, out in that country somewhere.
Q Did you discuss with Mr. Hulse getting that information from Mission Dairy dispite the refusal to let Mr. Wisdom have access?
A I assume so, but I don't recall exactly what was discussed about it.
Q You don't recall what Mr. Hulse told you with reference to getting access to that information?
A We weren't sure that they even had anything.
Q That's what you wanted to find out?
A Yes, but we weren't sure. Gonzales is quite a ways out in the countryside, not just like stepping out of El Paso a few miles.
Q Isn't it near Salinas?
A I don't know exactly; not too far from Salinas, somewhere in that area.
Q Mr. Wisdom told you that he had been denied access by the manager of the dairy; is that right?
A Yes, sir.
Q Did you inquire as to who the owner of the dairy was?
A No, I did not.
Q Did you yourself make any inquiry?

[36] A No.

Q Did you discuss the Mission Dairy with Mr. Wisdom?

A He just told me that Mr. Ripley was instructed by his boss not to get involved.

Q Didn't you discuss with Mr. Wisdom what the flushing system might be at the dairy?

A He said he didn't know.

Q Well, didn't you know and didn't he know that that equipment had come from Ross Holmes?

A There was a lot of equipment.

Q Well —

A There was a lot of equipment. At this time he was connected with Ross Holmes, Mr. Wisdom, and he still is.

Q Did Mr. Wisdom tell you that he had never been to Mission Dairy himself, or that he had never visited the Mission Dairy?

A No, he never told me any such a thing.

Q Did you ask him so to see if he could find out this information from Mr. Ripley?

A I asked him if he couldn't try a second time.

Q Did he ever report to you?

A In the meantime we had this summary judgment.

Q Did he ever report to you his access to Mission Dairy?

A No, sir.

[37] Q And did you discuss with Mr. Wisdom that he could ask somebody in the Ross Holmes organization what was out at Mission Dairy?

A I am sure he would know as much about it; there would be no reason for me to go beyond Mr. Wisdom.

Q Since Ross Holmes had installed it, there were persons that new exactly what was at the Mission Dairy; right?

A I am not sure that he installed it, because usually they ship it and another one installs it; I haven't the slightest idea who built it.

Q You knew that Ross Holmes equipment was at that dairy, didn't you?

A I knew that Ross Holmes and Parks was there.

Q To find out what was at the Mission Dairy installation?

A No.

Q Are you familiar with the publication called the "California Farmer"?

A No, that one I don't get.

Q You never heard about it?

A I have heard about it.

Q All right, and —

A I have heard about it, but I don't subscribe to it.

Q What do you know about the publication?

A It is a farm magazine is about all I know about it.

Q Do you know —

[38] A That's all I know about it.

Q You have looked at copies of it, of the California Farmer?

A It's been a long time if I have at all.

Q I will show you an article from the California Farmer of March the 20th, 1965, with the heading "remodeled dairy sets some amazing records," and this is an article on the Mission Dairy. I will ask you if you ever saw that (indicating).

A This is from the California Farmer?

Q Yes, you will see it. It's marked below.
A What do you want me to do, read it?
Q I will ask you if you ever saw this article; read it over.
A I don't recall seeing this article, no.
Q You don't recall it?
A I don't recall seeing it, ever.
Q Do you recall at any time during 1965 receiving an invitation to attend a Mission Dairy field day in February, the 9th of February, 1965?
A I never heard of Mission Dairy until recently. I never heard of Mission Dairy in 1965.

MR. KOLISCH:
Those are all the questions I have.

[39] CROSS EXAMINATION

BY MR. HULSE:
Q Mr. Sakraida, when you asked Mr. Wisdom to look at the Mission Dairy Farm, where were you living then?
A Florida.
Q And when did you move to Florida?
A Let's see, I don't remember if it was '70 or '71.
Q Then with respect to the year 1969, what occurred when you were in Florida would that have been in 1969, or '70 and '71?
A What do you mean?
Q I am talking about when you asked Mr. Wisdom to look at Mission Dairy.

A It seems like it was '69.
Q Were you living in Florida then, or not?
A I believe I was living in Florida in '70, not '69; I don't remember.
Q Okay. Where did you live before you went to Florida?
A El Paso, Texas.
Q El Paso, Texas.
A Right here.
Q And when did you leave here?
A I believe in the fall of 1970.
Q And this matter of asking Mr. Wisdom to take a look at the Mission Dairy, was that before or after you moved [40] to Florida?
A After I moved to Florida.
Q Did you know at that time when the Mission Dairy had begun operating or how far back it went in the matter of time?
A Pardon?
Q Do you know how long it had been in operation?
A No.
Q You said that in 1965 you never had even heard of them?
A No.
Q Other than what you testified about the occasion about which you asked Mr. Wisdom to check it out, when did you next hear about the Mission Dairy. Let me rephrase the question. Did you meet a Mr. *Herbmyer* in Florida in 1970?
A Yes, sir.
Q Did you previously know him?
A No, sir.
Q And I will ask you whether or not, state briefly how it was that you happened to meet him.

A He came to Florida. He told me he had some business, and while he was there, he understood we were building a 22,000-cow dairy and would like to know if I would have the time to show him around.

[41] Q Was that when you met him?

A I met him I believe, and I am not certain of this in Daniel's Restaurant, and I had not met him before, and so I had to ask two or three people before I found him.

Q And what is his connection?

A I understand he is the owner of Mission Dairy.

Q And did you learn what kind of a floor-cleaning system they had from him at that time?

A I did, because when I was showing him around the dairy, we went by the area with the gates and I told him there was a lawsuit over it, and he said "It is impossible," and started from there.

Q I will ask you whether or not you — whether or not that's the first time you actually had any information about what kind of a system they had at the Mission Dairy.

A Yes, then he told me about his system.

Q And was that the occasion for obtaining the affidavit attached to our motion before the Court of Civil Appeals in New Orleans.

A Yes, sir. I asked him why he hadn't said something about it, and he said that he had been instructed not to say anything about it.

Q Do you know where the other information came from about people like Mr. Sousa and Mr. Whitmore? Did you obtain any information yourself, or did he come to you after- [42] wards through Mr. Meyer?

A Mr. Meyer.

MR. HULSE:

That's all.

REDIRECT EXAMINATION

BY MR. KOLISCH:

Q During what period of time did you live in California?

A I believe from '64 until '68 or '69. I don't recall when I left California, whether it was '68 or '69.

Q During that time were you building dairies in California?

A Yes, sir.

Q Were you operating as a general contractor?

A I was operating as a general contractor and also as a consultant-supervisor.

Q During this period of time, how many dairies did you build in California?

A I don't know.

Q What is your best estimate as to the number?

A To what extent, completion?

Q That you were involved in, whether completely or involved in the construction in some way.

A It is going to take a little while. (Pause.) Most of the dairies, I built large ones. You already have [43] all this information. I built two in *Hemmit*, and one for Mr. *Secairian*, and Dawn Dairies, *Jessep's* Dairy in Bakersfield, California, and some in northern California, and I don't recall their names right now.

Q But you were building dairies relatively throughout the state of California through this time?

A As well as commercial buildings and churches.

Q You don't recall where in northern California?

A Up in the extreme northern part of the state; they were small ones.

Q Did Mr. Meyer tell you why he didn't want to get involved in this lawsuit?

A After he found out what was going on, he did want to get involved in it; that's my understanding.

Q Well, he found out after the decision had been against you in the Court of Appeals?

A No, sir. I talked to him before the Court of Appeals. I told him it was before the Court of Appeals in January; I didn't even know the outcome would come out like it did.

Q In your discussion with Mr. Meyer, apparently he told you at one time that he didn't want to get involved.

A Mr. Meyer never did tell me any such thing.

Q Then I didn't understand your testimony?

MR. HULSE:

[44] I think he is going to mislead the witness if he can. He testified that Mr. Wisdom said that Mr. Ripley said the manager didn't want to get involved.

MR. KOLISCH:

I recall the witness having said that he discussed it with Mr. Meyer, and that those were his instructions.

QUESTIONS BY MR. KOLISCH:

Q I am now talking about your January discussion with Mr. Meyer.

A Well, I don't know why. He didn't explain to me.

Q It was in January, did Mr. Meyer tell you that he had told Ripley that he didn't want to get involved, and not to show that dairy?

A I understand he told Mr. Ripley that he didn't want him to get involved.

Q Mr. Ripley?

A Mr. Ripley himself. The way I understand now, if

anyone comes to see Mr. Ripley about that dairy, he would discuss it at their office; that's what I understand.

Q Did Mr. Wisdom tell you that Mr. Ripley told him that he had to go see Mr. Meyer?

A I don't know what he told him.

Q I am only asking you what Mr. Wisdom told you.

[45] A I told you what Mr. Wisdom told me.

Q He didn't tell you anything more than what You have told us?

A No. I am not even sure he told Mr. Wisdom that.

Q Did Mr. Meyer tell you that he had shut his dairy off from others seeing it during any period of time, that it was out of bounds for people to go in and see what was going on in his dairy?

A No, he didn't.

* * * *

A. M. WISDOM,

a witness, called by Mr. Hulse, having been first cautioned and duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. HULSE:

Q Will you state your name, please?

A Wisdom, A. M.

Q And where do you live?

A I live in Oregon.

Q And what is your business?

[46] A Dairy equipment.

Q And who do you work for?

A Ross Holmes.

Q And how long have you been engaged in that business?

A I have worked for Ross Holmes about 8 years now.

Q And are you acquainted with Mr. Bernard A. Sakraida?

A Yes, I have known him many years.

Q Mr. Wisdom, I will ask you whether or not you had a telephone call from Mr. Sakraida at one time about your going down to the Mission Dairy in Gonzales?

A Yes.

Q Where were you when you received that telephone call?

A In Oregon.

Q And where did you understand he was talking from?

A Florida.

Q And do you know when this conversation took place; can you approximate a date?

A It was in 1971.

Q And what did he ask you to do about the Mission Dairy?

A He asked me to check and see if we had a washdown system of some kind and if it was in operation when they put it in.

Q And did you, pursuant to that telephone call, go to the Mission Dairy?

A Yes.

[47] Q And did you get to see what they had there in the way of floor washing equipment?

A No, I talked to Mr. Ripley.

Q Who is he?

A The manager of the dairy.

Q And what did he say to you?

A He said that he would prefer not to be involved.

Q Did he permit you to go in?

A Well, he felt at that time that it would be — that it wouldn't be right for me to go in.

Q Did he give you any information about it?

A No.

Q And what did you report back to Mr. Sakraida then?

A Basically what he told me that he would prefer not to be involved. I honored that because —

Q Did you make any further effort to find out about the Mission Dairy on behalf of Mr. Sakraida?

A No, sir.

MR. HULSE:

That's all.

CROSS EXAMINATION

BY MR. KOLISCH:

Q Are you from Medford, Oregon?

A Yes.

[48] Q And is Mr. Sakraida originally from Medford, Oregon?

A Yes, sir.

Q You have known each other for many years?

A Yes.

Q How long have you known about the Mission Dairy?

A I don't know for sure.

Q You knew about it before 1971, didn't you?

A Yes.

Q How much before?

A That's what I say, I don't know.

Q Were you aware that commencing in 1962 the Mission Dairy had taken on a major remodeling program?

A No.

Q Were you ever aware that Ross Holmes had supplied equipment to the Mission Dairy?

A Was I ever aware?

Q Yes.

A Yes, I was aware of it.

Q When did you become aware of that?

A Gosh, I don't know which year that would be.

Q Prior to 1971?

A Yes. It might have been sometime after I went to work for them.

Q When is the very first time that you ever visited the Mission Dairy?

[49] A They had an open house, and I don't recall the date.

Q Would 1965 refresh your recollection?

A I couldn't honestly say the date.

Q Are you familiar with the publication called the "California Farmer"?

A Yes, I've read it.

Q Let me show you a Xerox copy from the California Farmer of March the 20th, 1965 in which reference is made to the Mission Dairy, and ask you if you can identify that. Have you ever seen that?

A I don't recall it.

Q Does that date on the article there, does that refresh your recollection with relation to the open house?

A It is possible, because it looks like a fancy ad, I mean.

Q I will show you another document from North California Harvesters System and it is addressed to Mr. Gribble and Bennett, February the 9th, 1965. I will ask you if you ever received any notification similar to that.

A Not that I remember on this.

Q All right.

A I think that I would have remembered that if I had seen it.

Q Tell us what you saw when you visited the Mission Dairy [50] in 1965.

A If I visited it in 1965, well, let me rephrase that. When I was there I saw a very odd type of a Ross Holmes system. We had one milking machine in the center in the rear, two on the stalls in front, which I certainly hadn't seen before.

Q Don't you recall anything about that as a matter of fact that they did have an automatic flushing system in 1965?

A They certainly didn't, or I think I would have remembered it if it were in the area of the barn.

Q What about the holding pen?

A I primarily work with the milking end of it, and I can't visualize what that would be if it was there. But I think I would have noticed it if it had been in the front.

Q Did you discuss with anyone at or connected with Ross Holmes the Mission Dairy?

A You mean milking at the Mission Dairy?

Q Anything at the Mission Dairy.

A Yes.

Q What individuals?

A With Mr. Holmes and possibly —

Q Did you discuss with them the flushing system at the Mission Dairy?

[51] A I doubt it. I really wasn't interested in that end of it.

Q When were you asked by Mr. Sakraida to find out about the flushing system at the Mission Dairy? And you testified that Mr. Ripley wouldn't let you see it?

A I went down and asked about it, yeah.

Q And didn't you ever discuss then what that system was with anybody?

A No. There didn't seem to be any particular reason.

Q Well, at the time I am talking about, 1971, Mr. Sakraida asked you to get information on the flushing system?

A I don't understand your question.

Q I am now trying to find out if you discussed with anyone at Ross Homes after Mr. Ripley wouldn't let you see it?

A I don't think *I* did; I think I found Bud and told him I couldn't get the information.

Q As a matter of fact, without having seen the system, didn't you discuss it with Mr. Ripley just what kind of flushing system they had at the Mission Dairy?

A No.

Q Didn't you ask him?

A I asked him the time that he put it in, and I think I asked him if he had one.

[52] Q And what did he tell you?

A He said that he had rather not be involved.

Q I understand that, but didn't they tell you what kind of a flushing system they had there?

A No.

Q You never asked him, "What is your flushing system"?

A No. He seemed reluctant to discuss it at all.

Q What reason did he give you for not wanting to.

A The original reason, that he didn't want to become involved.

Q He knew about a lawsuit?

A Is that a statement?

Q I am asking you, did he say that he knew that it was because of a lawsuit, or why did he not want to become involved?

A He didn't say.

Q After you couldn't get the information from Mr. Ripley, did you make any other inquiries from anybody concerning the mission Dairy?

A (No audible answer.)

Q In fact, when you went to see the Mission Dairy, or went in 1971 or whenever it was that you made your visit there, didn't you know that they had a flush system similar to the Ag Pro system?

A No.

[53] Q You did not know?

A No.

Q You have no information concerning what the flush system was?

A No, not on the Mission Dairy, no.

Q I am not asking you as to dates, but just as to how that flush system operated, you had no information concerning that?

A No.

Q And it had never been the subject of any discussion with anyone at Ross Holmes?

A No. At least not that I recall specifically. My primary interest would be the milking machines and the operation of it.

* * * *

[54] EMIL ROVIE,

a witness, called by Mr. Tatem, having been first cautioned and duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. TATEM:

Q Would you state your full name, please, sir.

A Emil Rovie.

Q And Mr. Rovie, where do you reside?

A I live at Glendale, Arizona.

Q All right, sir, and where exactly is Glendale?

A Glendale is about 90 miles northwest of Phoenix.

Q All right, sir, and what is the nature of your business in Glendale?

A I am a dairy farmer.

Q All right, sir, and how long have you been so employed?

A I started dairy farming in 1943.

Q Did you acquire this farm from someone in your family, sir?

A I —

Q Or did you start it new?

A No, I started it new.

Q All right, and you started building the farm in 1943?

[55] A That's right.

Q And approximately what time did you complete it?

A In — I might say I left the university work — I had been in extension work — and I had bought this farm from a dairyman who had about a hundred and twenty-five cows at that time, and I went on with the land and the cows.

Q All right, sir. Did you construct a barn or change any of the operations from when you had purchased it?

A Originally, we milked in a little flat barn, and then after four or five years I built a parlour barn that we changed from the flat barn to the parlour barn.

Q All right, sir, and when is your best estimate as to when your barn was complete?

A That barn was completed in '47 or '48.

Q All right, sir. Other than the dairy barn, did you also raise any poultry or any other product besides the dairy?

A That is right. We produce feed for the dairy, and I also have a poultry operation about that same time.

Q Now was the poultry, where you housed the chickens, was that in close proximity to where the dairy barn was?

A Yes, it was. It was approximately a hundred feet apart.

[56] Q Now, Mr. Rovie, I want to inquire specifically with respect to the dairy barn that you had constructed in this land, and I ask you specifically, did you have any type of flushing system that you used to remove the manure off of the floor, a cleaning system to move cow manure off of the floor in your dairy barn?

A Yes, we did. We took advantage of the water that we had available from the irrigation well that we used on our land. We used this water and flushed it over our barn floor.

* * * *

[57] Q Sir, would you tell us what — with what substance the floor of the barn consisted of?

A All of our dairy barns were cement, concrete floors, and we used this water that we had available from the well and also from our irrigation district, and I had it in a cement-lined ditch, and we would raise the water level, the height it would flow out, over the floor, and wash the manure, the droppings from the cows, and clean it out.

Q All right, sir. Would you tell the Court whether or not there was any grade or slope in the floor.

A Yes. The floor was made to fall with one pass over the floor to pick up the manure and take it to a low point, and from that point the water would go back into another ditch below and go out to the field, and there we would use it to irrigate our fields.

Q All right, sir, would you tell the Court the system of how you released the water into the dairybarn?

A Water was released through four ports that we had into the dairy barn that we could manipulate with a wooden makeshift gate that we had, and the water level was raised, and when we wanted the cleaning action, we would release this water and it would flow over the sloping [58] type floor, and take the manure away.

Q Now, Mr. Rovie, do you have any engineering plans or diagrams of this area, of this dairy system?

A No, I had none particularly, other than we built it from know-how.

Q Where did you get the idea of this type of flushing system, sir?

A Well, I had studied it some at the university, and then from the time when I was a boy at home I knew that if we could throw a pail of water across the floor, it would do a cleaning job, and we did have this water

available from our irrigation well. We had our elevation was such that I got the idea that we could run this water across the floor and it would do this work for us.

Q Mr. Rovie, did I ask you to make a diagram of how your barn was?

A Yes, sir. I just penciled a sketchy diagram.

Q All right. May it please the Court, I would like to have it marked for identification. I have a copy for the Court and opposing counsel.

THE COURT:

All right. The Court Clerk will mark it.

(WHEREUPON, at this time, instrument marked for the purpose [59] of identification as Defendant's Exhibit A.)

QUESTIONS BY MR. TATEM:

Q Now, Mr. Rovie, I show you what has been marked for identification (indicating) as Defendant's Exhibit "A", and ask you what is that; can you identify that?

A Yes, that's the little sketch that I drew a rough sketch of the way the water did come in through our dairy barn and exited out carrying the manure with it.

Q And this is a diagram of the dairy barn as it existed what, at what point in time?

A This was in the area of 1950 up through — We operated this barn from 1950 on.

Q All right, sir. If we may, sir, we — if we could turn the diagram (indicating) where the notation of water supply is at the top, could we talk about it from that standpoint?

A Yes, sir.

Q All right, sir, now tell us what that means. Tell us what that means when you say "water supply." What are you referring to there?

A This is where our water did come through down a ditch and in this kind of a holding pattern where the water was held, was impounded at this point marked "Gate", we raised the water level at this point (indicating) and took it through our milk stalls and washed it [60] through.

Q All right, sir. How deep was this area that you are talking about where the water was impounded?

A This was probably two feet deep.

Q All right, and with respect to the side of the barn, would you tell us in your own words where this ditch was in connection with the side of the barn?

A It was outside the barn, on the back side of the dairy barn itself.

Q Did one side of the barn make one side of the ditch?

A Almost; I think a matter of a foot or two.

Q All right. Would you tell us about your dairy barn itself; that's to the right of where you are referring to?

A "Dairy barn," that's where the milking stalls were, and where the cows would come through the milking stalls, and with that we would wash with this water coming through here (indicating).

Q Now, looking at the diagram, what was the low end of the dairy barn?

A The low end of the dairy barn would be the right to where it's marked "Gates" and then the waste would go out at the lower-right of the diagram.

Q All right, sir. Now, what are these little four lines

that you have next to this trough by the side of the [61] dairy barn?

A That's the intake of water where we would impound the water, raise the level and let it flush across the floor.

Q A you familiar with the term "*weir* board"?

A Yes, sir.

Q Would you tell us what you know a weir board to be?

A Well, it is an opening, most generally a square type of opening that water flows through.

Q And how do you activate a weir board?

A You have a gate, and your water is behind the gate, and you lift or raise the gate, and the water goes through, and it flushes onto the floor and does the cleaning action of the manure.

Q Now, would you tell us in your own words what type of mechanism you had in between this trough and the dairy barn that the water had to pass through?

A It was just a square type of hole with a board, and you would raise the board out and let the water come through.

Q What size port was it?

A As I remember, the opening was probably about 20 or 24 inches wide, and maybe 6 or 8 inches in height.

Q Would you tell us what kind of plate or gate it was, whether it was metal or wooden?

[62] A It was wooden.

Q It was wooden?

A Yes, sir.

Q All right. Now, how did the system work once the water got to the dairy barn floor?

A Well, it would just wash off what droppings we had on the floor, because the surge of water would carry this water and manure to the gutter.

Q Where would the water go?

A It went down a gutter, and down by that dairy barn there, and drop into this gutter, this low point, and flow on rapidly out to the right, the low end of the barn, and go out through the manure drain and out to the waste ditch.

Q All right, sir. Now, what about near the bottom of your diagram where you had your chicken house, did you use any flush system for your chicken house?

A Yes, we had two cage houses; there was cage house number one and cage house Number two, and we used the same water system and we had 10 aisles in each of these cages, cage houses, and underneath the cages there was a cement trough where the droppings would fall from the chickens and fall into this, and then the water, we had a kind of a plug that would let the water down these aisles and wash the chicken manure, [63] the droppings, would go from the upper end of the house down to the lower end of the house and drop in and drop into this same drainage line, and on out to the field, and we used the same system for cleaning the chicken houses, also.

Q What are the little arrows at the top of the diagram "D-A", right there by the chicken houses, where the little arrows are?

A Oh, that's the direction of the flow of the water that would flow down these cage rows. We had individual cage rows, and that was underneath these cage rows we had it cemented, and the water would flow in that direction, a matter of about 200 — the house is about 225 feet long, and the water would flow from one end to the other and clean that chicken house.

MR. TATEM:

(Indicating.) Would you mark this "D-B".

(WHEREUPON, at this time, instrument marked for the purpose of identification as Defendant's Exhibit "B".)

MR. TATEM:

Your Honor, do you want to see this (indicating.)?

THE COURT:

No, no.

[64] QUESTIONS BY MR. TATEM:

Q Mr. Rovie, with respect to the face side of "D-B," can you identify that for us, please?

A Yes, sir, this is the head end of the — of — of our chicken houses, the head end of each one of those 10 rows. In the upper part of the picture we see the cages that the birds were confined in, and the bottom there is this concrete trough, and that's where the droppings would fall into and the head end of this trough we had a plug arrangement that we would pull out and let the water come out and proceed down this trough. This is the beginning of the trough there of each of these 10 troughs for each of the two houses.

Q With respect to the visual matters portrayed on "D-B," when was that completed?

A When was this built?

Q Yes, sir.

A This was built, oh, me, '46, '47, '48, in those years.

Q All right, sir. Now, prior to coming to El Paso, had you ever seen me before?

A Yes.

Q Can you recall approximately when it was?

A It was one day last summer that you came by the farm.

Q Do you recall that you were there when I took that picture?

[65] A Yes, sir.

Q Between 1973 and when that picture was, when that installation was completed, have there been any changes in it, I mean does the picture accurately represent the way it was when it was completed?

A That's right. This is correct. We haven't made no particular changes on it, and we've been using it all these years.

Q All right, sir. Now, with respect to "D-B", what are the baskets that are above this concrete trough?

A These are cages that we confine our birds in, and we have birds in these small cubicles that are roughly a foot wide and about 15 inches long, sloping floor, and the feed trough in front, and a basket to catch the eggs, a typical cage operation.

Q And what was the purpose of the concrete below the baskets?

A Droppings would fall from these chickens, and drop down, and originally we had to take them out with a wheelbarrow, and it was hard work, and then we conceived this idea of washing, so we did cement these aisles underneath there and use water velocity to wash the manure through.

Q All right, and how was the water introduced into the concrete trough?

[66] A This water came from the same supply system, and through there — we piped it into an underground pipeline to the head of this cagehouse, and with the head of each of these aisles we had this plug arrangement and we would open this plug and let the water come through, and it would flow down through the length of the aisle.

Q And how did you remove the plug from the top of the trough?

A We had a little tool that we would reach in and pull that plug out.

Q All right. I want you to look at "D-B" and tell the Court whether or not the metal tool you are referring to is depicted in that?

A Yes, it's here, that's the little metal tool (indicating).

Q All right, and tell us in your own words how you get the plug out with that metal tool.

A Well, it was a bent kind of a little metal tool that we would reach in there and pull this plug out, and it would let the water come out.

Q Now, Mr. Rovie, do you know of any time that your dairy barn or your poultry operation was written up or made public in any way?

A Yes, it was a matter of interest, and it was published in local newspapers, a newspaper cal`ed the Arizona Republican Gazette, I think it was called at that [67] time, on one of the Sunday editions.

MR. TATUM:

(Indicating.) Would you mark this, please, as "D-C".

(WHEREUPON, at this time, instrument marked for the purpose of identification as Defendant's Exhibit C."

* * * *

QUESTIONS BY MR. TATEM:

Q Mr. Rovie, I show you what has been marked for identification as Defendant's Exhibit "C" and ask you, can you identify that?

A Yes, sir. This was an edition in the Farm and Ranch Life of the Arizona Republic, August the 2nd of 1953, and it was kind of a almost full-page of my farm and the manure handling system that we had.

Q All right. Those pictures that are shown on that exhibit, are those pictures of the farm that you have been testifying about today?

A Yes, sir.

Q There is a picture of a gentleman in that article; is [68] that picture of you?

A Yes, sir.

Q And the substance of the documentary before it of how the author of that article obtained the information, did they interview you?

A Yes, they did. They came in and took pictures of it.

Q Have you had a chance to review that article?

A Yes, sir.

Q Is the article accurate about what it said that your barn did or did not do?

A Yes.

* * * *

[69] Q Now, Mr. Rovie, I am talking just about the part of the newspaper that pertains to your farm; I am not talking about the other articles that may be in there about some other collateral matter. All right, now, let's go back to Exhibit "A". This was the sketch of your farm. And particularly with respect to the

dairy barn, now, was the water that was in the water supply, was that continually moving, or were you able to store the water and dam it?

A We were able to store that water. We would dam it up with a gate to hold our water supply.

Q And it remained at rest in that position until what happened after that?

A Well, we would release this water, and we could use it to clean our milk stalls and go down through the chicken house and wash wherever we were at at the time.

Q And it was released through what, sir?

A Through a gate, or weirs.

[70] Q All right, you are using the word "gate" as synonymous with "weir"?

A Yes, sir.

Q And that is with respect to what on this diagram, or where?

A (Indicating.)

Q Those four little arrows?

A Uh huh.

Q Did you have four weirs or four gates?

A Yes, sir.

Q All right. How did you determine how many weirs to lift?

A Well, that was a matter of, you know, we would milk some cows, and then we would mix them with these gates here, and we would usually — We could clean the area by opening these gates here (indicating).

Q Would you tell us how, what's your information or what you recall as your contact with my firm, or how did we get together today, if you can recall?

A Yes, sir. *Herb Meyer* called me and asked me and

asked me about this. He evidently talked to somebody at the University of Arizona, and they gave him my name and he talked to me to ask me about this washing system and so I told him what we had done, and then it was later that you and he came to the farm to look at it.

[71] Q When was it that I came?

A Mid-summer of '73.

Q And I was introduced to you by what individual?

A By Herbert Meyer.

Q Do you recall that he called you and made some kind of arrangement with you?

A He did call me and said that you were coming.

Q At this time we would offer into evidence what has been marked "Defendant's Exhibit A". Also "B" and "C".

THE COURT:

Any objection to the offer of "A", "B", and "C"?

MR. KOLISCH:

Yes, Your Honor. Apparently this is being offered as some kind of prior art. They — We are entitled to 30 days' notice under the statutes, 35284, and this is the first time that the address of this individual —

THE COURT:

I don't know if it's being offered for that purpose, necessarily. I think it is just an offer to show that there is no basic novelty to your client's invention.

MR. KOLISCH:

[72] I'm sorry, that takes care of that specifically, but —

THE COURT:

This is not a trial on the merits; this is merely to determine whether or not — The only thing that the Court of Appeals has asked me to do here is to hear and question whether or not there should be a new trial based on newly discovered evidence. And, under Rule 59 B, that's all, the then I will either find if there is a basis for it, then I will order up this transcript and send it to the Fifth Circuit and file a supplemental brief, and then it's up to them. That's my understanding. I have a very limited role in this trial. I am reading, "to hear and determine defendant's motion for a new trial based on newly discovered evidence, to certify to the Court of Appeals the entire records, including the opinion and orders of the trial court, and the testimony taken on the new trial issue, and thereafter, it says, "We'll take over." Then you file supplemental briefs, and that is the limit. My hands are tied beyond that.

MR. KOLISCH:

You are not passing on —

THE COURT:

I am not passing on the merits of the [73] patent. I am going to do exactly what the Court of Appeals instructed me to do, and I just read here — And even then I am not permitted to go into the question of the trial on the merits of the infringement; that's got to go to the Fifth Circuit. They have to make the decision as to whether or not the patent is valid, and then if they feel like that there is a question of invalidity, it will be sent back and I will try it on its merits, afterwards, on the infringement question.

MR. KOLISCH:

I think that the Fifth Circuit indicated that the question of infringement would first have to be decided in the district court.

THE COURT:

But I am not going to hear that today.

MR. KOLISCH:

I understand that today you are not going into that, but —

THE COURT:

They tell me not to. They say that I am not to touch the question of infringement. As I said, the only thing I am permitted to do is determine the defendant's motion for new trial based on newly discovered evidence, and then to certify to the Fifth Circuit Court of Appeals the entire record, including [74] the opinion and order of the trial court and the testimony taken on a new trial issue. Then thereafter the parties will go back to the Court of Appeals and will file supplemental briefs, and then it goes on, and they will make the determination as to whether or not I will hear the infringement question. That, again, is all there is.

MR. KOLISCH:

I would still make the objection.

* * * *

[75] Exhibits "A", "B" and "C" will be received for the purpose of this hearing only, bearing in mind that I

am not passing on the merits. I think this would be a good time to take a recess. We'll be in recess for about 15 or 20 minutes.

(WHEREUPON, at this time, Court in recess for 20 minutes.)

THE COURT:

You may proceed to cross examine the witness.

MR. KOLISCH:

Your Honor, I will limit my cross examination and not go into any of the merits in the [76] construction operation of Mr. Rovie's dairy, because I have not had an opportunity of course to make any independent examination to determine anything concerning this dairy, so I cannot examine him on the merits of the dairy as such.

THE COURT:

You mean as to the merits of the usefulness of the particular operation he has for cleaning out his —

MR. KOLISCH:

Yes, sir, and whether in fact it is in anticipation of what the patent claims are, because I have not had an opportunity to examine it. This is the first time.

THE COURT:

Well, as I say, this is not a trial where all the merits can be determined. This is only a question of whether or not the newly discovered evidence could have been discovered by due diligence on the part of the movant prior to the other trial. And this is what — I am not sure

exactly what the purpose is. I think it was a very unusual ruling in that I am not sure in my own mind when I am supposed to find, if I should, if there was sufficient evidence, newly discovered, to raise a fact issue that would in [77] some manner overcome the validity of a patent, or whether they are going to make this determination based upon evidence which I adduce here in my courtroom, with my Court Reporter. They have no Court Reporter, and they can't make — They are not supposed to, as I understand. I understand what they say, and the door is open, and I am going to do exactly what my overseers tell me to do, and that is to hear the motion and then make a determination whether or not the evidence is newly discovered, and whether it is important, and whether it could overcome the validity of the patent. I don't know what the Fifth Circuit is going to do. I can't do anything; I think that's what they are going to do. I am going to hear all the evidence and be sure that they get a complete record, because they are the ones that are going to decide whether or not the patent is valid, and if they decide that it is invalid, that's the end of it, as I understand it. Or if they decide that, well, they may go a step further and find that there is evidence to show invalidity, they can send it back for a complete new trial, but I can't anticipate that. I know what they said, and I know what I am required to do, and I intend to do that, and we'll just see what the evidence is here. We are not going to try the entire case. I don't think I am [78] in a position until I determine whether a new trial should be granted to undertake the actual issues on either the threshhold question of validity or invalidity and second, the infringement. I am certainly a long way away from the infringement question, though. All right.

CROSS EXAMINATION

BY MR. KOLISCH:

* * * *

[79] Q And did you tell others in the field specifically concerning your flush system?

A Well, not particularly. It was my own system that we used on the farm, and I am sure that some of the people knew about it, and the article told about it.

Q And, you made some reference to the extension service; is this in connection with the Arizona State College, or what?

A The University of Arizona, the Extension Service.

Q Yeah. And what connection did the Extension Service have with this installation of yours?

A They had no connection whatsoever. I did spend four years working for the Extension Service after graduation from the university.

Q And do you know whether the people at the Extension Service were aware of your dairy?

A Yes, sir, the people in the dairy department were aware [80] of my dairy and what I had done, and I think they were the ones that had told Herbert Meyer when they talked to the University people that I had done this type of thing.

Q That was my next question, as to how Mr. Meyer came to you.

A Yes, I think that the people at the university gave him my name. He called me.

Q And that was in the middle of 1973?

A Yes, sir, the early part of 1973, as I remember.

and he came to the farm there I think in July of 1973.

Q And I think you said that your — the flushing system in your dairy first went into operation in the latter '40's; is that right?

A That is right.

Q And has it been continuously in operation since then?

A We did run it up until about the middle '50's, and then we changed and built a new barn and new dairy barn over on Orangewood Avenue, and that's where we are operating at the present time.

Q What kind of a flushing system do you have there now?

A We have a somewhat different flushing system because we didn't have the same set of circumstances. Over there at the new barn we have a tank, a raised tank, and then we have water piped from that tank. We keep water in that tank that's approximately maybe 15 to 20 [81] feet tall, and we would take water from the tank and run it through a series of 4-inch pipes, and we had valves that we can pull with a chain, and we use somewhat the similar system, but not the same identical system that I had in the old original dairy barn.

Q Is this old system still in existence?

A No, it is not.

Q When did it go out of existence?

A It went out in the middle '50's, I think in 1955 or 1956, somewhere in that area.

Q Is there anything remaining of that old system?

A Yes, I think there are some of the old floors are there, and we do have our cage houses, our chicken houses. They are still there, and some of the underground pipes are there, and the —

Q But as far as you know —

A The chicken house, we are not using those because of the cheap price of eggs. We went out of that business.

Q All right, that's all the questions I have.

REDIRECT EXAMINATION

BY MR. TATUM:

Q Just to clarify for the record, Mr. Rovie, the diagram marked "Defendant's Exhibit A", is of the old farm?

A Right.

Q And the old poultry house?

[82] A Yes, sir.

Q What is your estimate as to when you closed out the poultry house?

A The poultry house, I think it was probably in about 1967 or '68, somewhere in this area.

Q All right, and the new barn is — the new farm is at a different location, different land?

A Yes, sir, it is on what we call "Orangewood Avenue."

Q How many dairies are there in the Glendale, Arizona area?

A I am not sure; there are numerous dairies there in the Glendale area.

Q Could you give us just approximately how many dairies there are?

A Maybe in this area I would estimate maybe 15.

Q And the old dairy, how large of a dairy was that?

A The old dairy was — We milked about 150 cows.

Q The diagram "D-A," on that trough-like, up near the top where the dairy barn is, would you tell us for the record how far away from the side of the dairybarn it actually was.

A At that time it was right adjoining the wall of the dairybarn in the area of approximately a foot, the old ditch used to go through there and it was as close as we could build it there.

[83] Q And between the ditch and the side, was that where the gate was?

A Yes, sir.

Q All right.

MR. TATEM:

Thank you, Your Honor. I would ask that the witness be excused if he may.

THE COURT:

All right. Is there any objection to excusing this witness, gentlemen?

MR. KOLISCH:

I just have one or two more questions.

RECROSS EXAMINATION

BY MR. KOLISCH:

Q I don't think we identified who the Mr. Meyer was that you were talking to; was he Mr. Herbert Meyer from Mission Dairy, or do you know?

A I don't know his connection.

Q You know his name, but he didn't identify what connection he had?

A No, sir.

Q Do you have any photographs of your own concerning the flushing system that you have been testifying about?

A I —

Q I am talking about outside of the newspaper, you do [84] not have any photographs?

A No, sir.

Q Do you have any other records concerning that — the existence of that?

A No, sir.

* * * *

FRANK FRANCES SOUZA,

a witness, called by Mr. Tatem, having been first cautioned and duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. TATEM:

Q Would you state your full name, please?

A Frank Frances Souza.

Q Mr. Souza, where do you reside?

A Well, my residence is in *Hillmore*, California, and [85] business is in Turlock, California.

MR. TATEM:

All right, would the clerk mark this "D'd", please?

(WHEREUPON, at this time, instrument marked for the purpose of identification as Defendant's Exhibit "D")

MR. TATEM:

For the record, Your Honor, attached as Exhibit "D", to Defendant's response to Appellant's reply to Petition for Rehearing, was a telegram, and that's what I am going to ask him about.

THE COURT:

In order to save time, Mr. Tatem, why don't you mark all of the exhibits that you plan to offer or tender —

MR. TATEM:

All right.

THE COURT:

— at this time, and you can present them to counsel and you can take them from him as you have your witnesses testify about them and as you wish to tender them.

MR. TATEM:

Yes, sir.

(WHEREUPON, at this time, instruments marked for the purpose [86] of identification as Defendant's Exhibits "E" and "F".)

BY MR. TATEM:

Q Now, Mr. Souza, do you recall in 1973 sending me a telegram?

A Yes, sir.

Q I direct your attention to Exhibit "D"; is that the telegram that you sent to me?

A Yes, sir.

Q Now, the telegram refers to 28 years' experience in dairy construction?

A I started 28 years ago. I was off for, oh, about a year and a half, and I came back into it.

Q All right, sir, where was that construction, where in the United States?

A The first one I worked on was my brother's job, Harry W. Souza.

Q And your brother you say is who?

A Harry W. Souza.

Q All right, and where did you learn your profession?

A That's where I started, in about 1946.

Q Okay, and you have been doing dairy construction ever since that day?

A Other than about a year and a half that I was off, but I come back and have been with them ever since.

Q All right. Are you required to be licensed by the [87] State?

A Yes, sir.

Q Where are you licensed?

A California.

Q And you have been since what year?

A I was co-partner with D. B. *Balls* for approximately a year and a half or two years, and got my own license in 1954, I believe. I never checked the record, but I think it was in 1954, if my memory serves me correctly.

Q Of what year?

A 1954.

Q . All right. And what is the nature of your profession today?

A Building contractor.

Q And do you have a firm in California?

A Yes.

Q And what is the name of the firm?

A Frank F. Souza, Incorporated.

Q And how long have you been practicing your profession?

A Well, steadily since 1948.

Q All right, sir, and approximately how many dairy barns have you constructed in that period of time?

A I have no record of it, sir. Well, in the last four years, well over a million dollars a year, and back there I was probably doing a couple of million dollars.

[88] Q All right, sir. Your telegram refers to your knowledge of water-flushing methods since 1946.

A Yes, sir.

Q And where was the installation that you refer to in your telegram, that was installed in 1946?

A My brother's, Harry.

Q And where was that located?

A In West Turlock.

Q In Turlock, California?

A Correct.

Q All right, and in what part of the state is Turlock?

A Oh, about the middle of it, I would say.

Q All right. Do you have any engineering plans or blueprints of that dairybarn in 1946 that was Harry Souza's place?

A No, I don't have them at this time.

Q All right. How long —

A At that time we used to use what we called the "university plan," and then modified it with the local health inspector's approval.

Q What do you mean by the "Universal plan?"

A That refers to farmers plans that required the standard code for the dairy industry.

Q Would you tell us generally what kind of dairy this was, this one of Harry Souza's back in 1946.

[89] A Grade A dairy setup, meeting all the requirements of the State of California in marketing milk.

Q All right, and would you explain to us the flushing system that they had?

A Well, the law calls for curbs being around the

holding corral area, so to stop the manure from sticking to the floor, we would form a weir board system in the curb, which would contain the water, to stop the manure from adhering to the floor, and we would pull this weir board, and this would — this water would leave and take the manure along with it and then it would go into a pump system that would go into this irrigation ditch for approximately 160 acres — I'm not sure.

Q Mr. Souza, did I ask you to draw us a diagram as best as you could about the 1946 dairy?

A Yes, you did.

Q And I refer you to what has been marked "Defendant's Exhibit E," in front of you. Can you identify that for us?

A Yes, sir.

Q What is that, sir?

A That's the layout of my brother's ranch at that time.

Q Would you tell us, on the diagram, where is the weir board that you are referring to?

[90] A Well, let's put the milk room, wash room and equipment room in an orderly position, and then the breezeway and the barn. South of the milking barn is a holding corral, and then there was a hay barn that evened out. On the — There was what we call a "control lane" to bring cows to and from the milking barn. This water would go down the control lane about 60 feet, approximately, and I am just guessing at that figure of 60 feet, and would go into a gutter and into a pump, which is about 400 or 500 feet away, and this pump would pick it up and put it into this irrigation system.

Q All right. Where was the water held on the diagram, Defendant's Exhibit "E"?

A Well, if you noticed, in order for the hay barn,

what we call the "control lane," there is a fence line there, and it comes right south of that line — I drew a dash line there.

Q All right, would you draw a circle on your diagram for us, please, as to where the weir board was?

A (Doing so.)

Q All right, and tell us as best you can what happened — Would you draw it on the Court's copy, too, please?

A (Doing so.)

Q First, how would you activate the weir board; how did you make it move?

[91] A The wier board?

Q Yes, sir, how did you make it move?

A You just pull it out.

Q You just pull it out.

A Yes, sir.

Q All right, and what happens when you did that?

A Water would take off down there.

Q Take off down hill?

A Yeah.

Q Where was the water before you pulled out the weir board?

A In the holding trough.

Q All right, and how high was the holding corral, the size, approximately, the side of it?

A Well, the code at that time required 6 inches. Back then, probably, guessing, probably about 14 inches.

Q All right, sir. What kind of floor was in this barn?

A Concrete.

Q Would you tell us in your own words, was it flat, or level or sloping, or what kind of floor was it in there?

A The milking barn, or the holding corral?

Q The holding corral and this holding lane.

A Well, the code at that time required that you had to slope a minimum of one inch to ten feet. If my [92] memory serves me correctly, I think we allowed an inch and a half to ten feet.

Q All right, sir, and then as to — as the water came through the weir board, where did it go?

A Through that control lane in into that pump.

Q All right. On the diagram, where was the gutter, and tell us what was it for?

A The gutter went through the exercising corrals, or the feed lot corrals, if you want to put it that way. But this was west of this about 400 feet approximately.

Q Okay, and what was the purpose of raising this weir board and allowing this water to pass over the control lane?

A To help clean that control lane.

Q Of what, sir?

A Manure.

Q All right. Now, where did you get the idea of damming water with a weir board?

A Well, my brother got the idea. He brought it to me, and I decided to exercise it in other jobs in other locations.

Q Was your brother older or younger than you?

A He was quite a bit older than I was.

Q And you all grew up on a farm?

A Yes, sir.

[93] Q And you all had seen it done before?

A He took me and showed it to me what he wanted done.

Q All right. And subsequently, you used a what you refer to as a "washdown" in 1949?

A '49, that's when I went into the business, sir.

Q All right, sir, in 1946 you were just working on your brother's place?

A That's correct, sir.

Q And in 1949, what happened at Frank *Mechado's* place?

A I was working for D. B. Balls, and shortly after that I became a partner with him.

Q And what kind of company was that?

A Construction.

Q Construction?

A Dairy barns, homes, that kind of thing.

Q All right, sir, and look at Defendant's Exhibit "F". And do you have any engineering plans or blueprints of this dairy that was built in 1949 at Frank Mechado's place?

A No, same thing, university plans, provided by the Health Department.

Q There is nothing on file that you have in your office as to what the actual layout was?

A No, sir.

Q Did I ask you to draw us a sketch or diagram as to how [94] the 1949 dairy looked?

A Yes, sir.

Q Look at Defendant's Exhibit "F".

A (Doing so.)

Q Can you identify that?

A Yes, sir.

Q And can you identify that, sir?

A Yes, sir.

Q What is it?

A Frank Mechado's setup that I drawed there.

Q All right. Is there any difference in this layout than what had been done in 1946?

A The direction is all, but these are the same.

Q What type of floors were installed? In 1949.

A Concrete.

Q Tell us about the contour, the shape of the floor.

A It all sloped to one corner, and the hay barn was right east of this holding corral; it fed around three sides, and the water would clean the water off of the back side, but not the other two sides, and take it into a pump and then it would be pumped out to a holding pond or sometimes into the ditch.

Q All right, sir, and what kind of mechanism in the 1949 dairy, Defendant's Exhibit "F", did you have to hold the water?

[95] A Weir board.

Q All right. Would you take a pen or pencil and circle on Defendant's Exhibit "F" where that weir board was.

A (Indicating.)

Q Was it activated the same way?

A Yes.

Q All right, you just pulled it up?

A Yes, sir.

Q And what happened to the water in the 1949 dairy?

A It ran on down to where the pump is.

Q And what was the purpose of raising the weir board?

A To let the water out of the holding valve and clean out the back side of that area.

Q And to clean the dairy of what?

A Manure.

Q From where in the dairy?

A The hay barn area. That control lane was dual-purpose. He fed also around this area.

Q As you constructed one of these dairy barns,

your company, did you make and file the blueprints of what you had done?

A Not at that time.

Q All right, and at approximately what time did you start filing the blueprints of how dairies were built?

A (Pause.) Nine or ten years ago.

[96] Q In the mid '60's?

A Yes, mid '60's, I would say.

Q All right. How was the layout or the diagrams of the barn passed down to you; how did you learn what had been done?

A Well, talking over with different customers, different craftsmen, and being in the trade and practicing it myself.

Q All right, sir. Approximately how many dairies are there in the Turlock, California area?

A (Pause.) I don't know the number, but I know there are an awful lot of them. I think *Stanislaus* County is the Number Three county, and I believe *Mercett* County I believe is Number 4 or 5 in California, and my — I mean I have no way to tell you the number. The average in Stanaslaus dairy size is about an average of 227 per dairy, I think.

Q All right. What size dairies were these that you had referred to in your telegram and today.

A They started out at that time only being 100-cow dairies, and it has been multiplied several times that since then.

Q From your experience as a contractor, do you regard that as a relatively small, medium or large-size dairy?

A At this time?

[97] Q Yes.

A Small.

Q Do you recall how you first got my name or my firm's name with respect to this case?

A I believe Herb Meyer got ahold of me first, and I believe you called me shortly after, if my memory serves me correctly.

Q All right, and approximately when was that?

A In March, I believe it was, of 1973.

Q All right, and you believe that Herb Meyer was the link, so to speak, of getting in touch with me?

A Yes.

Q You had never met our firm before?

A Not Herb Meyer or you at any time.

Q Before 1973?

A No.

Q All right. So far as you can recall from memory, are the exhibits "E" and "F" accurate as a diagram or sketch of the floor plan?

A That is correct, of that area.

MR. TATEM:

Your Honor, we would ask that Exhibit "E" and "F" be admitted.

THE COURT:

All right. Are there any objections?

[98] (Pause.) They will be received in evidence.

All right, you may cross examine.

MR. KOLISCH:

Once again, Your Honor, I will not cross examine Mr. Souza on the merits of the construction of these dairies he's testified to, because this is the first opportunity that we have had to get any information.

CROSS EXAMINATION

* * * *

[99] QUESTIONS BY MR. KOLISCH:

* * * *

[100] Q This floor plan, Exhibit "F", this dairy is no longer in existence, this flushing system? As Shown?

A That dairy is in existence, but not that particular type of system, no. Neither one of these are.

* * * *

[103] MR. TATEM:

For the record, Your Honor, the Clerk tells me that "D", which is the telegram, has not been introduced, and I would offer it.

THE COURT:

All right, it will be admitted.

(WHEREUPON, at this time, instrument marked for the purpose of identification as Defendant's Exhibit "G".)

CHESTER FLEET WHITMORE,

a witness, called by Mr. Tatem, having been first cautioned and duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. TATEM:

Q Would you state your full name for the record?

A *Chester Fleet Whitmore.*

Q And where do you reside, sir?

A I was born and still reside at the present time in Modesto, California, but I am temporarily in San Francisco. Modesto is my residence, though.

Q All right, sir, and what is the general nature of your occupation?

A I retired when I was 65.

Q When did you retire?

[104] A In the year 1971.

Q All right, sir, and before you retired, what was the nature of your profession?

A I was a night watchman for Modesto Irrigation District for seven years, and prior to that I spent 33 years in the Grade A Dairy business. Farming.

Q All right, and where did you — Where were you involved in the dairy business?

A From 1929 until 1953 I operated a dairy, a Grade A Dairy, on Bridgemore Avenue in Modesto, California, and in 1953 the farm was sold for a subdivision, and I built a new dairy on a newly purchased piece of land on *Cosner* Road, Modesto Irrigation District. I farmed the Grade A dairy there until 1962 when I sold it.

Q With respect to the property that was on the *Crosner* Road, did that dairy have a particular name that it went by?

A At that time it was known as "Whitmore Dairy," sir.

Q All right, and that was in Modesto, California?

A Yes.

Q All right. Would you tell us what kind of dairy that was?

A I built that up to a Grade A operation and corral feeding, and Jersey cows —

A How large a dairy was it?

[105] A We milked 120 cows there on the average.

Q All right, sir. Now, with respect to cleaning systems, did you have any particular type of floor cleansing system or flush system there at the dairy at Modesto?

A In the first dairy I was constantly plagued with the floor cleaning, and I realized that I needed something like that, so I planned for a long time to have a better one and to install a flush system. I had to do this by observation and using my own improvision.

Q All right, sir. Would you tell us actually where you got your ideas to build your new dairy?

A I went to several dairies that I had heard had forms of flush systems, and investigated at the Elwin Young dairy situated on *Standeford* Avenue in Modesto, and another one, I do not know the name of the owner, or recall it at the present time, and they both used flush systems.

Q All right. When you use the word "flush system", what do you mean by that?

A I mean using a lot of water to carry out the manure, both the fibers and the paste kind, and take that, remove it from the floor, usually in the holding pens where cows are held in large numbers.

Q How was the water contained or held?

A In most cases the water was contained in a shallow wall [106] around a flat floor, and drain toward the opposite end of the barn.

Q And how did the water get onto the floor?

A From three different sources. One from the ice machine, which was water which was water-cooled partly, one from the cooling coil for cooling from animal temperature down to 38 degrees required by law, and the washing of the cows' utters, and the other was pumping plant into this holding tank.

Q How was the water released to wash?

A The Elwin Young dairy it was simply pumped through there and washed on out with a nearby pump at one corner, and the other one I saw it was pumped into a cement-lined ditch and then it was taken through the holding pen and on out through a continuation of the ditch at the lower grade.

Q All right. With respect to the new dairy that you built, what ideas did you try to use, just with respect to the flushing system in your new dairy?

A In the flushing system in the new dairy, I bore in mind the fact that this manure would accumulate from the evening milking and the next morning milking, and if it's allowed to dry on a dry floor, it would be very hard to remove, and since it was long hours at work and I had to do the most of it, I would impound [107] the water and droppings in this holding tank and held it with a tapered wooden plug.

Q And how high were the sides to your holding corral?

A Roughly 8 or 9 inches.

Q And what kind of floor was it?

A It was a concrete floor, and it was all graded to the point of the plug was the low point.

Q The how was the water released?

A It was released by simply prying out the little wooden plug and that released it.

Q And then the water did what?

A It flushed right on down through the long cement-floored feeding area. The feeding area was 13 feet wide; it was 227 feet long at first, and then I extended it as our dairy grew, and it continued on and flushed on into a manure pit at the lower point.

Q Did the manure wash down with the water?

A Yes, sir.

Q Did you have any engineering plans, or do you have any engineering plans or blueprints of this dairy that you are testifying about that you built in Modesto?

A No, but I have had a little mechanical drawing in school, and I planned it myself and had my tractor man make the fill and grade according to my ideas.

Q All right. Since you have come to El Paso, did I ask [108] you to draw a diagram of that barn?

A I drew a diagram because it was my custom to explain what I can't very well put in words.

Q All right, sir. I will ask you to look at Defendant's Exhibit G, which is in front of you, on the yellow sheet of paper, and I ask you, can you identify that?

A Yes.

Q And what was that?

A That was a schematic drawing I made of my operation there looking down to the left is north, the milk cooler area to the manure pit, approximately a 3-foot fall, and about 450 feet distance.

Q All right, sir, now where was the dairy located that is depicted on Defendant's Exhibit G?

A It was on the right-hand or south side of the drawing.

Q Maybe my question wasn't clear. In what state or city was it built?

A It was located at Modesto, California.

Q And when was it completed?

A It was completed in the fall of 1953.

Q All right, sir. Now, directing your attention to the diagram where you have "holding pen," and —

A Yes.

Q And then to the left of that you have an arrow showing "plug."

[109] A Yes.

Q Now, would you tell us in your own words with respect to this diagram how that worked?

A It worked by inserting a plug and filling in with a burlap sack to make sure that it didn't leak very much, and the water was admitted from the outside source, or deep-well pump, as I have indicated at the right, lower-right area of the holding tank. I turned on an electric pump and filled the pen with fresh water. Then the cows were driven in and there they could wash their feet off, and be ready to go on into the milking barn, and then more water was added to it.

Q What — Once the holding pen was filled, was the pump left on?

A Not until the cleanup operation.

Q All right, and then as you pulled the plug, what happened?

A I had a very lively flow of water there, and the water would recede all over the pen in the opposite direction from the opening.

Q And go to the left on that diagram?

A Yes.

Q Now did your dairy barn have any gutters or drains?

A There were low points or gutters, per se, that drained through into the holding tank, all the other sources [110] of water from the ice machine, from the

milk cooler, and washing the manure through the grates, all drained into the holding tank.

Q And then it went to the left down where, sir?

A It went down through the feeding area, the cement walk behind the feed mangers, and then on north, or left in the diagram.

Q Now looking at your diagram which is Defendant's Exhibit "G", to the left of the holding pen you have "walk and feeding area."

A Yes.

Q Was all of that concrete?

A Oh, yes.

Q And was the holding pen uphill from where the walk and feeding area was?

A Yes.

Q All right. Do you know whether or not your dairy there at Modesto was ever written up in any farm journals in the California area?

A Oh, yes, it created a lot of interest and was written up by Mr. *Elam* for Dairy Journal, *Hoards* Dairyman, and the Modesto agricultural news section.

Q All right, sir. I direct your attention to Exhibit "H", which is in front of you, and — (Indicating)

(WHEREUPON, at this time, instrument marked for the purpose [111] of identification as Defendant's Exhibit "I".)

QUESTIONS BY MR. TATEM:

Q Exhibit "I", and ask you, can you identify that for us?

A Yes, that was my dairy at Modesto.

Q All right, those pictures that are in that article, is that the dairy that you have been testifying about sir?

A Yes, sir.

Q Are you — Are those pictures taken of the dairy that's exemplified on the diagram, Defendant's Exhibit "G"?

A Yes.

Q All right. Where did the text of that article come from; I mean were you interviewed by the writer of that article as to how did the dairy work, or how it got it's name?

A Yes, he asked me all kinds of personal questions, and to review this, in the first place, I worked out the details of building the dairy with the assistance of George *Strauss*, who was the Agricultural Extension specialist in dairys in the county, and George was very enthusiastic about it. He wanted the general information passed along to the public, so he asked me to cooperate and give this some publicity, as it [112] would be helpful to everyone reading it, to maybe figure out a better way.

Q And apparently this initial article came out in 1957?

A Yes.

Q And I am referring to Exhibit "I", which is the article in the Hoard's Dairyman?

A Yes, sir.

Q Do you recall any other articles where your dairy was written up?

A I think the first article appeared in the Modesto Daily Agricultural News Section which is carried on the weekends.

Q What was that, a local newspaper?

A Yes, published in Modesto.

Q All right. Look at Exhibit "H". Is that the same dairy that was written up with respect to Exhibit "I"?

A Yes.

Q Do each of those articles appear to be accurate representations as to the way your dairy was and the way it worked?

A Yes.

Q Did you have a chance to review those articles?

A Oh, yes, I have seen them. I have them in my files at home.

Q And is it an accurate description and pictoral display [113] of the way your dairy worked after it was completed?

A Yes.

Q Mr. Whitmore, do you know the background as to how I got to meet you; do you know who my link was as to how we met?

A Yes. I know most of them now.

Q When was the first time that I did meet you?

A That was last summer at the trailer court at Modesto.

Q All right.

A You came there one day and interviewed me and asked me where this dairy was located, and stated the purpose.

Q And have you looked at the pictures of your dairy?

A Yes.

Q All right, and do you know how I got your name, what the link was between my firm and you, how we found you?

A It was through research and through contact with one of the gentlemen who appeared as a witness.

Q Could you identify that man's name for us, please?

A You would have to refresh my memory on it.

Q Well, is Herb Meyer, is that —

A Yes. Herb Meyer, that's who.

Q Your Honor, I would pass the witness and ask that exhibits "G", "H" and "I" be introduced in evidence, with the request that I would substitute a photostatic [114] copy of the newspaper article. I would like to return that to him.

THE COURT:

Are there any objections as to substituting a copy for the originals? All right, the copies will be received in evidence. You may cross examine.

MR. KOLISCH:

Subject to the same reservation that I made with respect to the other witnesses.

CROSS EXAMINATION

BY MR. KOLISCH:

Q Mr. Whitmore, during what period of time was your dairy that you have been testifying about, and particularly the flush system, in operation?

A I started using it as soon as I moved the herd to the new dairy, and we were there until November 1962 I sold it to another party who has used it until just two years ago, 1971.

Q I take it the flush system about which you have been testifying is no longer in existence?

A No, the dairy is still being operated, and they are using it the same way.

Q The flush system is still in operation.

A Yes.

* * * *

[115] Q I noticed in this photograph, Exhibit H, and I, the statement said that the hired man begins sweeping the floor of the corral, and the hired hand operates a pusher board which loosens the material; is this a correct description of the operation?

A He used a pusher board first, and after the water receded — We never operated it except right at the first. It wasn't successful without the introduction of more water than we had there. We would have to use water, and then deflect the water from the duckbill outlet of the pump which supplied 800 gallons per minute, and we would deflect that with this pusher board, and then sweep it when the thing was all drained out, and the pump was shut down.

Q By "sweeping," are you referring to pushing this pusher board along the lanes?

A Yes.

* * * *

[119] REDIRECT EXAMINATION

BY MR. TATEM:

Q Mr. Whitmore, approximately how many dairies are there in the Modesto, California area?

A I have no idea, except that as an oldtimer there, I would suggest there might be anywhere from 300 to 1000.

* * * *

Q All right. The picture of the man using the push board in the exhibit, I believe it's "I", what was the purpose of that flat board there with respect to the flowing of the water?

A That was to deflect and increase the velocity of the water flow, because there were certain parts of the droppings that would stick to the floor and took a lot [120] of volume all the way down, and we never had enough water to carry it. It had to be used all the way through whatever area you would desire to clear.

Q Thank you very much.

THE COURT:

You may be excused. Call your next witness. How many other witnesses do you have? Bear in mind, gentlemen, that this is not a trial on the merits. I need to decide whether or not you exercised due diligence and whether it's sufficient to overcome the presumption of validity. That's all I am interested in. I think we are going into a lot more detail than what I thought we were.

* * * *

HERBERT G. MEYER,

a witness, called by Mr. Hulse, after having been first cautioned and duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

[121] BY MR. HULSE:

Q Would you state your name, please.

A Herbert G. *Meyer*.

Q Where do you live, Mr. Meyer?

A I live in California.

Q And what place in California?

A *Carmell*, California is my home and residence.

Q And what is your occupation?

A I am a ranch manager.

Q What kind of a ranch, and by what name does it go?

A Well, the ranch is known as the "Herald Ranches," has several different divisions. The division we are talking about here is the Mission Dairy.

Q I will ask you whether or not you are the owner of the Mission Dairy in California?

A No, I'm not the owner.

Q Who is?

A It's in a trust.

Q It's in a trust. I will ask you whether or not you have been familiar with the Mission Dairy for several years?

A Yes, I have been familiar with it ever since I was a little boy.

Q And Mr. Meyer, directing your attention to a time that I believe will be around 1961, did you have any [122] plan that you originated for the Mission Dairy around 1961?

A Yes, sir.

Q Briefly, what was it?

A Well, the opportunity — Well, first, the dairy was on our property, which was leased out to another tenant, and he was retireing, and I had the opportunity of buying the dairy operation.

Q And did you have any plans in connection with acquiring the dairy?

A Not knowing anything about dairies, I approached it from an economic standpoint, and had to analize what was needed in order to make it a profitable operation, what we would have to change, what we would have to look for in the future, and in 1961 and '62 the dairy industry in California was in

very bad shape, and this dairy had good breeding, good potential, but being unfamiliar with the economics of it, I had to make a study of it, which I did.

Q How many head of cows had then been milked, at that time?

A Until that time we had been milking about 300 cows.

Q And since that time how many have you milked?

A About 650 at the present time.

Q All right.

[123] A The production when I took the dairy over was about 450 pounds of butterfat, and now our production is about 650, 680 pounds of butterfat.

Q Did you make any investigation of the design and use of other dairies before you did this one in '61?

A Yes, I did. I spent a lot of time looking at other dairies up and through the State of California, and also we were building a feed mill at that time and some other equipment, so I had a chance to go down to Arizona.

Q And your educational background is what with respect to agricultural business?

A I graduated as a mechanical engineer from the University of California, was in the Navy and did electronic engineering, and after the Service I went back to take another year of agricultural engineering, and then went back to the University of California at Berkeley and took post-graduate work in business administration.

Q And while you were investigating other dairies, I will ask you whether or not you saw any of them that used a flush system to clean the dairy barn floors?

A Well, there were a lot of different methods used that I did see, pieces of all of these, and I did see dairies

that used flush systems at one place or another.

[124] Q Would you tell us the names of some of these dairies where you saw a flush system at one time or another?

A Yes, the first one that comes to mind was the *Clayman* Dairy up in *Lodi*. I was familiar with the engineers up in the University of California, so I consulted with them with regard to getting equipment. Primarily I was interested in the dairy milking machines, the layout, and they had sources of information available which they passed along to me, and one of the dairies which I visited was either the *DeCarli* Dairy or the *Klaus* Dairy in Stockton, and that had a drop gate, a small drop gate system involved in its operation. *DeCarli* was a dairyman and a farmer that was written up in many magazines in California, and was accredited with being way ahead of his time as far as the ingenuity he used on the dairy. I also visited Mr. Whitmore's dairy and observed his operation. I also visited the *Max Foister* Dairy, which is close to this other one, and many other dairies throughout California.

Q Now, with respect to that Clayman Dairy out here, you called it, what kind of a flush system did they have there?

A They used a pump and they had valves in the floor, and they would take the valves off and let the water come up through the floor as in an irrigation system, and [125] flush down their barns and lanes with that kind of a flushing system. This was in 1960.

Q I will ask you whether or not they used gravity in that connection.

A It was gravity; the water bowled out, and then flushed the floor.

Q From what source?

A From a well pump. And I was giving this consideration as far as cleaning our barn was concerned, because we, too, were in a large irrigation operation, and we could have done the same thing.

Q And at the *DeCarli* Dairy, you said something about a drop gate, can you describe that for us briefly?

A Basically, as I recall it, there was a tunnel more or less where the cows came up, and in it was a small gate where he flushed down his milking equipment, the water gathered there and flushed down the small lane. It was an inaccessible place.

Q But this was a drop gate?

A Yes, sir.

Q And did you see the Whitmore Dairy, you said?

A Yes. Really, the Whitmore Dairy was the basis of my idea, as far as what we ultimately ended up with. I received an article from a secretary which was in a dairyman magazine in California, published by a Mr. [126] *Elam*, and that article showed pictures of his dairy and holding tank and his lane where he fed his cattle, and his disposal system for the manure. I started in the early part of '61, then, designing the barn and the equipment to be used, I was pretty far along as far as my opinions were concerned as to how to go about the innerworkings of the barn and the manure disposal. I had been by to see the *Foister* Dairy earlier in '61. I started my operation in July, and it was a twin parlour barn, which was what I was going to make our barn. However, they had just opened it up, and it was still under construction, and I was going to come back and see what they had done after they had some experience with it, and when I saw that article in the magazine, I took that opportunity to go by Whitmore's

and Foister's Dairy, and that's where my ideas jelled, as far as I was concerned with respect to our method of flushing system which we used in our dairy operation.

Q Would you state specifically what it was about the Whitmore Dairy operation that gave you an idea for something that you could use in rebuilding or making a new operation out of the Mission Dairy.

A The Whitmore Dairy had a holding tank right off of his milking parlour. When he would wash this milking parlour, the water would flow into the tank. He had [127] a curb all the way around except for a small section possibly two feet wide in the concrete lanes. He had a wooden plug with burlap to cover the opening, and the cows would walk over this 8 or 10-inch lift without any difficulty. Later he would pull out the plug and the water would surge down this concrete apron, cleaning the manure, and it would sump into a manure sump.

Q And what part of your setup did this give you the idea for?

A Well, primarily what I was after was a labor-saving device, or devices, and up until that time our old flat barn was cleaned out in the old way and carried out in feed carts something like the old mechanical mining carts that you have, and there were two feeders. The water flushing system was an improvement over this older method. It was done the old way ever since I was a little boy.

Q And how old are you?

A Forty-nine.

Q Go ahead.

A That dairy is about 60 years old, but anyway, they would take a high-pressure hose and hose it down.

Q With respect to the DeCarli Dairy, did you see that yourself?

A Yes. I tried to go look at it, but it's been taken out.

[128] Q Was it a new or old dairy at the time you saw it?

A It was a very old dairy, but it was written up for the modern things this many had done.

Q You saw it at the same time you saw the other dairies?

A Yes, that's right.

Q Did you see it in action?

A Yes.

Q When the gate was opened, or dropped, was the action slow, or surge, or slow, or what did it do?

A It was a little gate. It was dropped and the water would flush out.

Q In the floor that was in front of it?

A Yes. I got the idea from Whitmore's operation, and I got the idea that we could put a gate at the end there and impound the water, and give us our surging action, and volume, and I would operate it with a hydraulic ram operated from the milking pits, and it would be automatically controlled, and the reason for having it controlled is that in our operation sometimes the cows would come in in the winter time with heavy mud on their feet, and we would open the gate partially and let some of the water flow out, and not get the full surge, and we had it under this high-pressure ram so we could drop the ram and let it come out gradually or surge.

[129] Q I will ask you whether or not you got your ideas from the other dairies that you saw?

A Yes. I got my ideas from them and improved on those.

Q Who first sketched out the design or plan for your barn?

A I did.

Q And what, if anything, did the Soil Conservation people have to do with that plan or design?

A Somewhere in September or August of '61, I contacted the Soil Conservation people to help me lay out my plans, because from the engineering, and the grades and so forth, they copied the entire area and we calculated our cuts and fulls and how we could shape our corrals. All of my records were destroyed by fire except the fireproof cabinets, and so I went to the soil conservation office and they had a plan dated in January of 1962, so they had the plan complete at that time.

Q And do you know when you began purchasing equipment for it then?

A Yes. I will have to refer to my notes to get this exactly right. Well, first of all, I forgot to mention that in California we have a State Dairy inspector, and all of our plans have to be approved by the state before we can make any construction. So I have his records which indicate when I first met with him. I met with [130] him on November the 18th, 1961, as his records show, to discuss corral planning, which was about the time that the Soil Conservation people were doing the work for me, and I contacted Mr. Bill *Holm* on December the 5th, 1961, to go over his equipment with him and set up a meeting which we had sometime in December, and I then purchased the equipment and let the contracts for it by December the 16th, 1962, and January the 2nd, 1963 I have the permit from the dairy inspector, the official permit, and on February the 25th, 1963, I let the contract for fully automatic stalls

with the Ross Holms People, and on March the 15th, 1963 Mr. Young, the dairy inspector, had further discussions with me concerning the new barn, and on June the 10th, 1963 he has the notation that we began putting the building over the barn setup at that time, and we were in the barn on October the 25th, 1963, milking.

Q Do you have some pictures with you showing the drop gate that you put in your barn?

A Yes, I do.

Q (Indicating.) Here are some closeup pictures of the drop gate which have not been submitted to the Court before.

A I have some smaller pictures of the barn setup, the mechanical — One of those pictures shows the gate [131] which was designed to fall flush with the floor so the cows would not trip on it, nor would they slip on it, and the gate mechanism was to shove the cows, to shove the gate, were fixed in such a way that we could protect the cows from being caught in the gate when it drops, because one time we lost a cow's foot.

Q I will show you "Defendant's Exhibit L", and would you state what that is, please?

A Number "L" is the gate closed, the hydraulic ram pulled up, the water is backed up in the holding area, ponding area, and it's probably 18 inches deep, and I would estimate, I think it's about 12 or 15 hundred gallons of water.

Q It shows the drop gate in place, upright?

A Correct.

Q I will show you Defendant's Exhibit "K" and ask you to state what that is.

A This is the hydraulic ram, one located on each side. These were I believe 3-foot rams in order to give

our extension, and they are 600-pound pressure rams, double acting, in order to give a tight fit to keep the gate under control with the amount of water pressure behind it.

Q And I will show you Defendant's Exhibit "M" and ask you to state what that is.

[132] A "M" is the gate flush down after the water has been or when it goes down, the water flushes out.

Q And what is Defendant's Exhibit "J", sir?

A "J" is a side view of the dam showing the strengthening members of the dam on the side.

Q I will ask you whether or not these pictures show it in the same form and condition as it was put in by you when this dairy was built?

A Exactly.

Q What kind of a floor do you have in your dairy?

A The old milking barn was then turned into a holding barn. We had to knock out some of the old stantions that were in there. We raised the floor, elevated it 6 inches, and we cambered it slightly to the outside and then we left troughs on the outside for the cows to walk down, but it served a double purpose, because as the water flushed down through the old holding barn, the water would pick up the cow manure and work it off to the sides, and it would come, the concentrated water, like a weir, and fall down the east side of the barn and take the head load of the water on out to the manure ponds.

Q What kind of action did you get, then, with the water, when the gate was dropped?

A There would be a swirling action like a dam breaking, [133] the water rushing out over the floor.

Q Did you know whether or not in the early days of this construction and use of this, did Mr. Gribble see it?

A Yes, Mr. Joe Gribble.

Q Do you recall when that was or what the circumstances were?

A I was not there. I did not see him personally. My dairymen said that sometime in 1964 Mr. Gribble came by, and said that we could buy our patent for a dollar. And he told him to leave. Now, my dairymen did not know who Mr. Gribble was or anything about it until Mr. Gribble came back to the ranch here several weeks ago and revisited the ranch under the pretext of selling us some equipment, and our dairymen recognized him at that time. And Mr. Gribble did come by my office, and he was out there several months ago.

Q Going back to the way this dam operates, I will ask you whether or not that dam or drop gate, and I have used — I think we've used those terms interchangably, has an effective control of the water which you can control it any way that you want to?

A Yes, with the hydraulic rams we can control it, and the amount of water that we want to let out. We seldom use it out there.

[134] Q Now, prior to January 1973, were you acquainted with Mr. Bernard A. Sakraida?

A No.

Q Had you had any contact with him?

A I had no contact with Mr. Sakraida at all.

Q Did you meet him in January of last year?

A Yes, I met him in Florida.

Q And I will ask you whether or not anything came up about your dairy and how this thing works while you were — when you saw him in January of 1973.

A I went to Florida to see some of the new operations that were being built down there because I was interested in upgrading our operation, and Mr.

Sakraida's name was given to me as a contractor in the area, and I called ahead and made an appointment to see him and he said that he would show the various dairies that he was building to me at the time, and he took me around for a half a day. It was toward the end of that day that we began talking about the flushing systems, and that's when he brought up that he was being sued.

Q And, what did you tell him with respect to Mission Dairy at that time?

A I told him I had a flushing gate just like that one.

Q And did you tell him how far back?

A I told him it was in operation sometime in October of [135] 1963, and we had designed it much earlier than that.

Q And, subsequent to that, did either Mr. Sakraida or Mr. Tatem get in touch with you for an affidavit?

A After that, Mr. Tatem did get in touch with me about an affidavit, yes, sir.

Q And I will ask you whether or not he saw you in California?

A Yes, he flew out to California and met me in Los Angeles.

Q Is the result that you executed an affidavit?

A At that time we gave him the pictures of our dairy operation.

Q And I will ask you what, if anything you did with respect to getting in touch with other people, inquiring about water flush systems and dairies and — in the California and Arizona area.

A Well, 13 or 14 years ago is a long time, and a lot of water has gone over the dam, so to speak, and I am — This flush system was not a major thing, as far as we were concerned. My main reason or interest was the

economics of the operation in dairy equipment and milking equipment and all the other things, and consequently I didn't document or anything these kind of things, and I had to try to think what I saw and who I saw and try to remember everything, and that [136] was prompted by Mr. Gribble's asking me if I had my dairy or this particular thing in publication.

Q And I will ask you whether or not after you had contacted various dairy people out there in California or Arizona about the water flush systems used years ago, did you contact either Mr. Sakraida or Mr. Tatem?

A Yes, I did. I contacted — tried to pick up the traces of where I got my ideas and where I had been.

Q I will ask you whether or not among others that you contacted was Mr. Rovie, Mr. Souza, and Mr. Whitman?

A I contacted Mr. Souza, Mr. Whitman and who is the other person, Mr. Rovie?

Q Yes.

A And I contacted other people, and I tried to find DeCarli, and I contacted a Mr. Higgins who has given all his data to the University of California. He was a free-lance writer and published some papers in California, and I contacted the librarian to find out what information I could, and I contacted people back in other places that I thought might have some information for me.

MR. HULSE:

I believe that's all the questions I have.

THE COURT:

Mr. Kolisch?

[137] MR. HULSE:

Oh, I would like to offer these exhibits which are "J", "K", "L" and "M", I believe.

THE COURT:

If there are no objections? They will be received in evidence.

(WHEREUPON, at this time, discussion out of the hearing of the Court Reporter, off the record.)

MR. KOLISCH:

Subject to the same reservation I made with respect to the other witnesses, Your Honor, on the merits.

CROSS EXAMINATION

QUESTIONS BY MR. KOLISCH:

Q When was the first time that you became aware that the flush system which you have, or had, at the Mission Dairy was similar to the manure flush system which had been developed by Gribble and Bennett?

A The first time that I became aware that mine was the same, (Pause) I became aware of the flush system from Mr. Holm.

Q Mr. Holm is at the Ross Holm company?

A That's right.

Q And what was the date that Mr. Holm was aware of that system?

[138] A I showed him my plan, my ideas, and that's when — That was sometime in, oh, March of '62.

Q And did Mr. Holm tell you at that time about the *Sweet* Dairy —

A That's the dairy that he was putting his fully automated equipment in, and that was the first dairy that he was installing this in.

Q And did he discuss with you the flush system at the Sweet Dairy?

A No. I showed him what we had in mind and he said "That's similar to what they are doing up there."

Q And did he indicate to you what the stage of completion of the work was in?

A No. I don't understand what you mean.

Q Did he indicate what the status of the *Sweets* Dairy was?

A Well, —

Q In other words, was it under construction, or finished or what?

A It was under construction and it was finished. The automated equipment was in the process of being completed.

Q When you say "automated equipment," you are talking about the milking part?

A Right.

[139] Q He did not specifically discuss with you what the flushing system was at the —

A No.

Q Other than after looking at yours, to say, "That's similar to ours."

A He said, "I made mine like that, too."

Q When is the first time that you became aware of the Gribble and Bennett patent?

A Well, again, Mr. Gribble came by and offered us to buy the patent for a dollar. I guess that that might be the first time that somebody was trying to sell us a patent.

Q You were personally offered this?

A No, it was hearsay from my dairymen.

Q Tell us in as much detail as you can what your dairy manager told you about it when this was and what his name was.

A Again, I don't know the exact date, because I can't pin it down. I know that sometime in 1964, '65, somebody came by and offered us, gave us the chance to buy the right for a dollar.

Q Would it refresh your recollection if I told you that the Gribble and Bennett patent was issued at the end of December of 1965?

A Yes, I guess it must have been after that time.

[140] Q This is what I asked you the first time.

A I don't know.

Q You don't know?

A I don't know.

Q All right. Who was your dairy manager?

A Dick Ripley.

Q And what did he tell you?

A That somebody came down and offered us the right to buy a patent on our equipment for a dollar.

Q Was this a proposal to sell you some rights to the patent?

A I don't know what he was showing, I guess the rights. But I wasn't there. I guess that's all he could sell.

Q And did you then get any information concerning this patent?

A No.

Q Did this interest you in any way?

A No.

Q At any time, did you ever make any attempts to maintain the operation of your flush system at the Mission Dairy a secret?

A No. But it was in a place that it wouldn't been

seen very easily. I never maintained a secret about anything about it. I opened up my ranch to anybody who was interested.

[141] Q That is my next question. Have you ever put your ranch off-limits to anyone?

A I did to Mr. Gribble when he came by here to my office about three months ago.

Q When Mr. Gribble came by, did he introduce himself?

A Yes.

Q You knew who he was; he didn't try to hide his identity?

A He was going all over the county talking to different people, and I knew of his existence because of people telling me.

Q But as far as you were concerned, he came in and introduced himself to you?

A He phoned and I let him come in.

Q At that time did you show Mr. Gribble your flushing system?

A No, he was in my office. My office is in Salinas.

Q Yes, but have you instructed anybody that he shouldn't see your flushing system?

A Up until that time?

Q Yes.

A No.

Q Did you ever instruct Mr. Ripley not to permit a Mr. Wisdom to see the flushing system?

A Yes. I did, but not with respect to Mr. Wisdom, but [142] with respect to people inquiring about it about that time, yes. That's right, I did. I told Mr. Ripley not to let people see it.

Q Why did you want to shut it off where no one could see it?

A Because I had heard of the suit filed against a dairyman down in Los Angeles.

Q And, why were you concerned?

A I wasn't concerned about it. It was just a matter of nuisances.

Q If I understand your testimony correctly, up until that time, you hadn't told me what date that was that you made some kind of restriction that —

A Asking questions, not visiting. Just asking questions.

Q Oh, your ranch was always open?

A That's right.

Q So Mr. Whitman or anybody else could come in, and they could always come in and see what it was?

A That's right.

Q As far as you are concerned, you had never denied anyone access?

A Not — No.

Q Your denial was with respect to giving information?

A That's correct.

Q And you wouldn't permit Mr. Ripley to discuss any [143] dates in connection with your operation?

A That's correct.

Q During what period of time did you exercise that restraint?

A That was at the time that I had a court case pending. With the A. F. Smith Company.

Q What has the A. F. Smith Company case have to do with a patent case with Mr. Gribble and Bennett?

A I was having problems with a court case with A. F. Smith Corporation. We were having the same thing of people coming by and asking questions. That was the time I instructed Mr. Ripley not to answer any

questions about any of the equipment on the ranch.

Q As to what period of time did you —

A There was no limitation on it. It was just "Don't get involved with people who are asking questions about the equipment."

Q And did you subsequently change that order to Mr. Ripley?

A No.

Q Does that still stand?

A Yes, sir.

Q When did you decide to provide Mr. Sakraida and his attorneys with the information concerning this?

A When I talked to Mr. Sakraida down in Florida, because [144] it seemed so unfair to me to have this thing going throughout the United States, with the problems that were created with it.

Q At any time were you ever advised that if the Gribble and Bennett patent was upheld, your installation might be an infringement?

A No.

Q You were not aware of that?

A No.

Q Is this the first time you have become aware of that fact?

A Naturally I have been talking to attorneys, and this kind of thing has come up now, but —

Q I asked you when you first became aware of the patent — the fact that your installation is, if it did not in fact predate, would be an infringement?

A I guess when I read your return to the Complaint, yes, sir, that was filed in the Fifth Court of Appeals.

Q And in your discussions with Mr. Sakraida, did that subject ever come up?

A No.

Q You were never concerned?

A I designed it, and I know exactly how I designed it. Furthermore, I have seen the one up at Piney Hill, and several years later, and it wasn't holding up at all. [145] It was leaking from all sides.

Q When was this?

A Oh, sometime in '66. They had an open house up there.

Q Prior to January, 1973, were you ever approached by anyone with respect to providing information which would be helpful to the defendant Sakraida?

A Prior —

Q To January, 1973.

A I was not approached by anyone.

Q Do you know if anybody in any of your organizations in which you are connected was approached?

A Not that I know of.

Q What were the names of the individuals connected with Ross Holm who worked at your installation, in addition to Mr. Bill Holm?

A I don't remember.

Q Do you have any dated plans or drawings of your flushing system?

A The only dated plan I have is the Soil Conservation plan. All of my plans were destroyed in a fire, and I do not have any plans as such. There was no need for this type of plan.

Q When were these pictures, Exhibits "J, K, L, M," shown, or taken?

A I don't know. They are not dated on the back.

[146] Q Does the operation shown on these pictures show your operation as it exists today?

A No. We have gone to a sprinkler-type system. If they do use it, it would be only occasionally. I am not there all the time. It takes about three or four minutes to fill the gate up, and it takes about one second to drop it, and that's all that's done in a day's time. So you have to be there right at that time to see it.

Q And approximately when did you install this sprinkler system?

A Well, I think about two years ago.

Q Do you know a Mr. W. C. Fairbank?

A Yes, I do.

Q How long have you known Mr. Fairbanks.

A Well, I guess I have been acquainted with him since I knew him up at the University of California. I only know that now because we have some correspondence. I wouldn't have been able to recognize him.

Q Would it be correct to say that you did know him during the '60's?

A I guess it would be correct, just as any other person in school would be.

Q Did you know anything about anything concerning his visit at the Mission Dairy?

[147] A No.

Q The testimony that you gave concerning various flushing systems, which you studied and visited and examined, throughout the period, I think, sometime when you first decided to make improvements to the Mission Dairy, and up until at least the end of 1971, to your knowledge, was all this information publicly available?

A Yes.

* * * *

[153] MR. KOLISCH:

Your Honor, we have Mr. Gribble here, and it had been my intent if you were going to go into this matter, to put Mr. Gribble on.

THE COURT:

Well, let me ask you, I imagine all he [154] will do is deny some of the testimony that's given by their witnesses, and that would do no more than raise a fact issue. Is there any need — I don't have any objection to your putting him on, but I will have to judge the newly discovered evidence, and aside from whether it was obtained by a showing of no lack of diligence, strictly on the basis of what that evidence is, obviously the testimony of your client is newly discovered evidence, and certainly do no more than join the issue with that newly discovered evidence on the trial of the case on the merits, and I don't think that I am required, as I said, I am going to find that the only action that I am mandated to take by the Court of Appeals is as follows: And that is to hear and determine the defendant's motion for new trial, allegedly based on newly discovered evidence. That's a quote. And to "certify to the Fifth Circuit Court of Appeals the entire record, including the opinion and order of a trial Court and the testimony taken on a new trial on the new trial issue"; and thirdly, thereafter, the parties will go back to the Court of Appeals and file supplemental briefs and after which any additional issue as to the validity of the patent will rest exclusively with the Court of Appeals. And I don't see why I would want to hear any testimony that would join issue and dispute what they [155] have said. I will take judicial knowledge of the fact, based on the testimony given at the prior trial,

which I am familiar, that he is going to take issue with them, with this testimony.

MR. KOLISCH:

I think additionally if Mr. Gribble were to testify, we would also bring out, and I think it has probably already been brought out, the connection between the people that installed the *Sweets* Dairy and the (partly) inaudible) . . . 6's . . . This is where Gribble and Bennett made their first installation, and they started this work in 1961 and it was finally completed at the beginning of 1963. And you will recall that there was testimony with respect to the Ross Holm people who were working on the Mission Dairy.

* * * *

[156] MR. KOLISCH:

Yes, Your Honor. I think specifically we have to deal with the question of the Mission Dairy, which we will concede from the information that we have, that this stuff is substantially the same as what was developed by Gribble and Bennett.

* * * *

[163] MR. KOLISCH:

And I would represent to the Court that the issue of whether or not the defendant was diligent is one on which we would be entitled to put on evidence, namely in respect to the Meyer Dairy.

THE COURT:

The evidence was closed yesterday, Mr. Kolisch. I am here now to rule. That's all I had you back here for.

The evidence was closed last night. I could have ruled by sending you an order.

MR. KOLISCH:

I misunderstood that, and the Court's disposition of the case yesterday.

THE COURT:

All right. I find that the evidence adduced under the motion for new trial based on newly discovered evidence would, standing alone, and unchanged and uncontroverted by opposing evidence, would overcome the judgment, since the evidence clearly shows that this flushing system was not new, not novel and did not meet the test of non-obviousness, and the prior use of the flushing systems was thus in anticipation of this patent. I will enter an order this date to this effect. That's all, you are excused.

(WHEREUPON, end of proceedings.)

Supreme Court, U. S.
FILED
JAN 5 1976
MICHAEL RODAK, JR., CLERK

SUPPLEMENTAL APPENDIX

IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,

Petitioner,

versus

AG PRO, INC.,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED
STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

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FEDERAL RULES OF CIVIL PROCEDURE

Rule 1 Fed.R.Civ.P.

SCOPE OF RULES

These rules govern the procedure in the United States district courts in all suits of a civil nature whether cognizable as cases at law or in equity or in admiralty, with the exceptions stated in Rule 81. They shall be construed to secure the just, speedy, and inexpensive determination of every action.

* * *

Rule 60 Fed.R.Civ.P.

RELIEF FROM JUDGMENT OR ORDER

(b) Mistakes; Inadvertence; Excusable Neglect; Newly Discovered Evidence; Fraud, etc. On motion and upon such terms as are just, the court may relieve a party or his legal representative from a final judgment, order or proceeding for the following reasons: . . . (2) newly discovered evidence which by due diligence could not have been discovered in time to move for a new trial under Rule 59(b); . . . . The motion shall be made within a reasonable time, and for reasons (1), (2), and (3) not more than one year after the judgment, order or proceeding was entered or taken. A motion under this subdivision (b) does not affect the finality of a judgment or suspend its operation.

TITLE 35 - UNITED STATES CODE - PATENTS

35 U.S.C. §101 - Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title. July 19, 1952, c. 950, § 1, 66 Stat. 797.

* * *

35 U.S.C. §102 - Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's

certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other. July 19, 1952, c. 950, § 1, 66 Stat. 797.

35 U.S.C. §103 - Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, § 1, 66 Stat. 798.

* * *

35 U.S.C. §282 - Presumption of validity; defenses

A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it.

. . . .

In actions involving the validity or infringement of a patent the party asserting invalidity or noninfringement shall give notice in the pleadings or otherwise in writing to the adverse party at least thirty days before the trial, of the country, number, date, and name of the patentee of any patent, the title, date, and page numbers of any publication to be

relied upon as anticipation of the patent in suit or, except in actions in the United States Court of Claims, as showing the state of the art, and the name and address of any person who may be relied upon as the prior inventor or as having prior knowledge of or as having previously used or offered for sale the invention of the patent in suit. In the absence of such notice proof of the said matters may not be made at the trial except on such terms as the court requires. July 19, 1952, c. 950, § 1, 66 Stat. 812.

MOTION TO PRODUCE

Pursuant to Rule 34 F.R.C.P. plaintiff requests defendant, Bernard A. Sakraida, and his attorney, J. F. Hulse, to produce and permit plaintiff's attorneys to inspect and copy each of the following documents:

1. All notes, memoranda, or any other recordation of telephone conversations between them and W. C. Fairbank of Riverside, California.

2. All correspondence between Bernard A. Sakraida and/or J. F. Hulse and W. C. Fairbank including, but not limited to, copies made of enclosures (identified by W. C. Fairbank in his deposition taken August 16, 1973 as twenty-one letters) which accompanied a letter sent by W. C. Fairbank to J. F. Hulse in 1969.

3. All documentary evidence purportedly disclosing prior art pertinent to United States Letters Patent 3,223,070.

Each of the documents called for is to be produced for inspection and copying by September 24, 1973, at the offices of Scott, Hulse, Marshall & Feuille, 11-D El Paso National Bank Building, El Paso, Texas 79901.

KOLISCH, HARTWELL & DICKINSON

By_____
J. Pierre Kolisch
Of Attorneys for Plaintiff

Filed: August 23, 1973

TRANSCRIPT OF PROCEEDINGS
February 6, 1974

[15] THE COURT:

Number 3, what about Number 3?

MR. KOLISCH:

Number 3 would cover any documentary evidence on which they would rely if the Court gets to the question of hearing the merits of the case.

THE COURT:

[16] Now that would go to the infringement question, if any.

MR. KOLISCH:

It would go to the question of validity.

THE COURT:

Validity?

MR. KOLISCH:

Yes. And we are entitled to see such documents, I believe, and so to cover anything that you- -

THE COURT:

Let me just ask Mr. Hulse if he understands Number 3; do you understand Number 3, what he wants in Number 3, and do you have anything there that would throw any light on Number 3?

MR. HULSE:

I am not sure what he wants, but we have some exhibits that we want to offer this afternoon.

THE COURT:

In other words, all documents purportedly to show the prior art, and are pertinent to United States letter to patent 3,233,070, those will all be presented today that you have?

MR. HULSE:

Yes, sir.

[17] THE COURT:

Okay. That's your answer. Reserving the right for them to look at the memorandum, you may proceed now to put on your newly discovered- -

MR. KOLISCH:

Your Honor, would you hear us first on the question as to whether or not they should be given the opportunity to put on the newly discovered evidence; they should be- -

THE COURT:

If I understand the Fifth Circuit's direction to me, that's why we are here.

MR. KOLISCH:

As I understand the Fifth Circuit's direction was to hear whether or not there should be a hearing on the so-called newly discovered evidence.

THE COURT:

Well, wouldn't it be just as easy or quick to hear the whole matter now and I'll rule on all of it at

the conclusion of the evidence.

MR. KOLISCH:

Would the Court- - If the Court- -

THE COURT:

There would be a duplication involved if I should decided to hear it, and it says here, "The [18] District Court will hear and determine said motion proceeding on the issue of infringement, and- - "

MR. KOLISCH:

No, that's the second- -

THE COURT:

"- -District Court . . . (counsel and Court talking at the same time.) . . . subject, however, to the Court's consideration of a motion filed under Rule 60B 2 to be filed in District Court by the Defendant, Sakraida- - "

MR. KOLISCH:

Sakraida.

THE COURT:

Sakraida. "- -on the issue of patent validity based on newly discovered evidence. The District Court will hear and determine said motion." How am I going to pass on it unless I hear it?

MR. HUNTER:

If we could show the Court this this was not newly discovered evidence or it was evidence which he

could not have obtained with diligence, then I think that- -

THE COURT:

Well, I think that the burden is upon the Movant under Rule 60b to prove- -

[19] MR. KOLISCH:

Yes, sir.

THE COURT:

And I think I am going to give him an opportunity to prove that this is newly discovered evidence and it is entitled to be offered, and under these circumstances that they will get a new trial of it heard, but the only way I know to do that is see what they can do; the burden is their's under Rule 60b. As I understand it.

MR. KOLISCH:

I think that's correct. I just wanted to get that procedure straight.

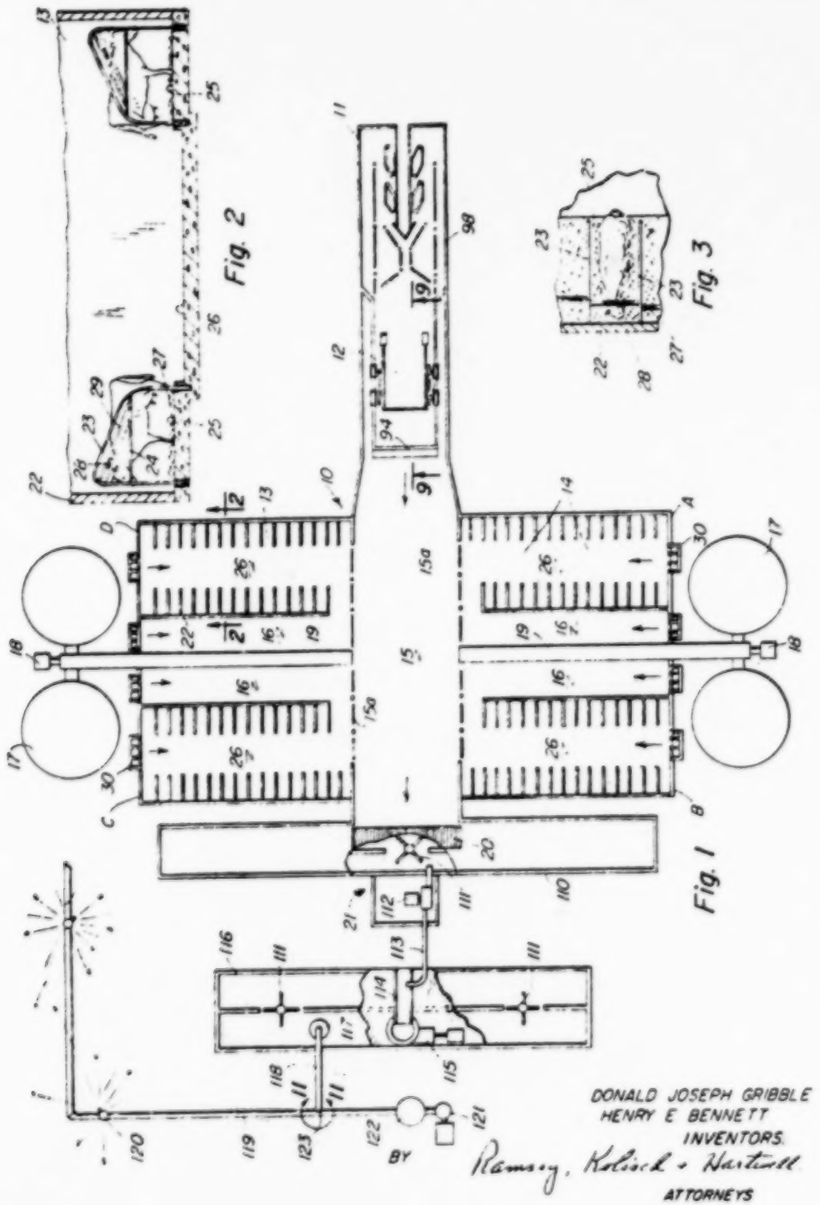
THE COURT:

All right. Let's proceed, Mr. Hulse. I think that the burden is upon the Petitioner, the Movant.

Dec. 14, 1965 D. J. GRIBBLE ETAL 3,223,070

DAIRY ESTABLISHMENT

Filed Nov. 5, 1963 3 Sheets-Sheet 1



DONALD JOSEPH GRIBBLE
HENRY E BENNETT
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BY Ramsey, Kolisch & Hartwell
ATTORNEYS

Dec. 14, 1965 D. J. GRIBBLE ETAL 3,223,070

DAIRY ESTABLISHMENT

Filed Nov. 5, 1963 3 Sheets-Sheet 2

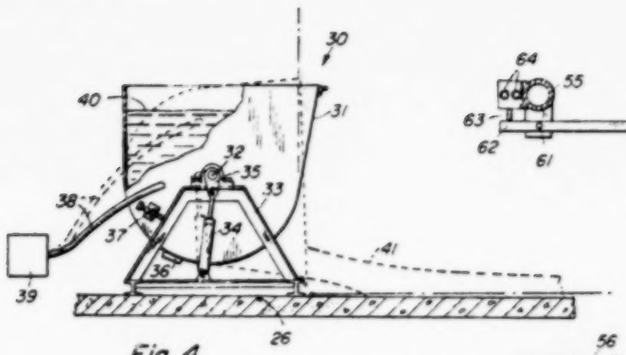

Fig. 4

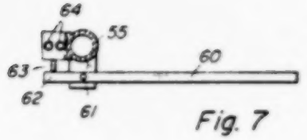

Fig. 7

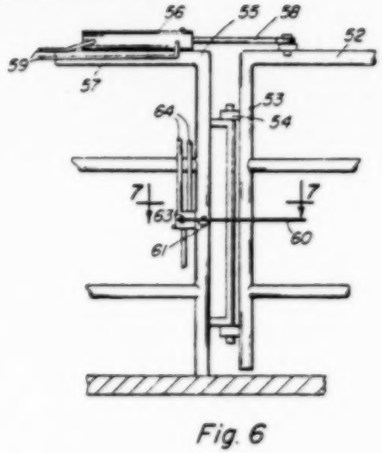

Fig. 8

Fig. 6

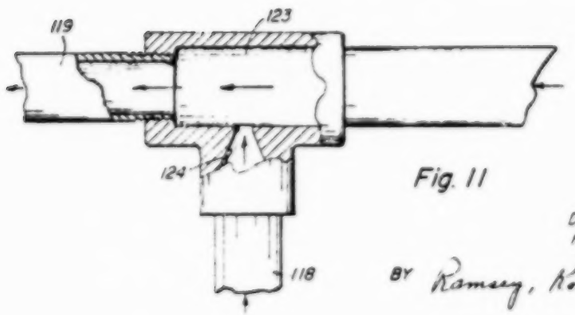

Fig. 11

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DAIRY ESTABLISHMENT

Filed Nov. 5, 1963 3 Sheets-Sheet 3

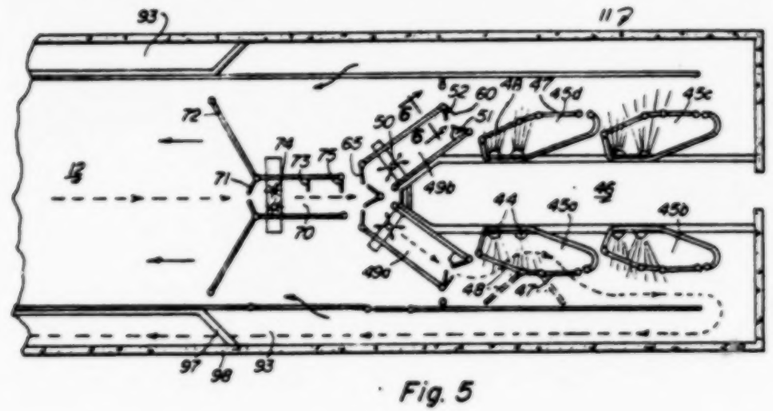

Fig. 5

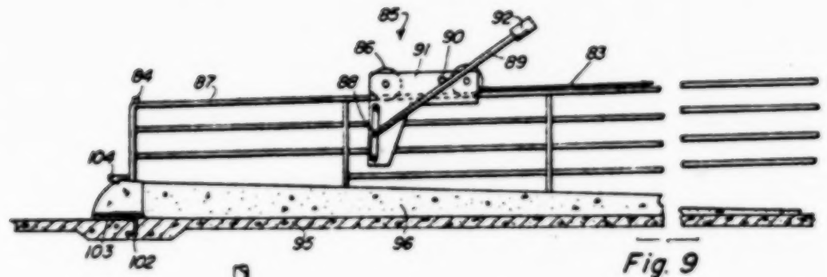

Fig. 9

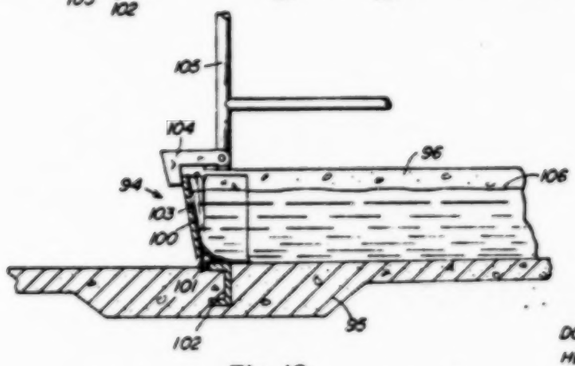

Fig. 10

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United States Patent Office 3,223,070 Patented Dec. 14, 1965

3,223,070

DAIRY ESTABLISHMENT

Donald Joseph Gribble and Henry E. Bennett, Santa Rosa, Calif., assignors to AG Pro Inc., Santa Rosa, Calif., a corporation of California

Filed Nov. 5, 1963, Ser. No. 321,642
3 Claims. (Cl. 119—16)

This invention relates to method and equipment for care and maintenance of domesticated food-producing animals. While the invention is particularly applicable to the care and maintenance of milk-producing cows, and will be described in relation to the construction of a dairy barn and care of cows, it is applicable to other domesticated animals.

Ever since man domesticated animals, their care and maintenance has involved a great amount of hand labor, particularly in the case of milk-producing animals such as cows which are kept for periods of time in a barn. It is recognized today that in order to achieve optimum results in milk production, cows must be properly fed and cared for and milked under strictly sanitary conditions. The removal of cow offal from a barn is as much of a task today as it was in ancient times. In order to produce good, sweet milk, it is important that there be no accumulations of cow manure and urine in the barn because milk readily absorbs odors directly as well as through the respiratory system of the cows. Furthermore, accumulations of manure in the usual piles or lagoons employed in connection with dairy operations are obnoxious and highly unsanitary. They are breeding grounds for flies, mosquitoes and all forms of pests as well as a prime source of water contamination. Seepage and runoff from manure accumulations contaminate surface as well as subsurface water supplies. According to a feature of our invention, this is completely eliminated and cow offal is continuously removed from a barn and put into condition for expeditious use as fertilizer.

Under known dairying techniques cows are maintained, when the weather permits, in pastures near the milking barn and are periodically brought into the barn for the purpose of milking and then returned to pasture. Movement of cows between pasture and barn is time consuming and entails considerable man hours. Permitting cows to graze a pasture is not the most efficient way of feeding them. When cows are turned loose in a pasture, they graze it unevenly, trample much of the feed, and the manner in which their manure is deposited on the ground destroys the feed with which it comes in contact and doesn't do the ground much good. Furthermore, flies and other undesirable pests are attracted to the area. From the foregoing, it will be appreciated that a given field will produce more and better feed if the feed is removed therefrom and fed to the cows rather than permitting them to graze.

The object of the present invention is to provide a really completely sanitary dairy system which produces uniformly high-quality milk in greater quantities per cow than heretofore produced at substantially lower cost and with much greater ease to the producer.

The object of the invention is achieved by maintaining a herd of dairy cows under controlled, sanitary conditions. Pasturing of cows is completely eliminated. The cows are maintained in a large barn having various areas in which the cows rest, eat, and are milked on a controlled cyclical schedule. Cows are known to be creatures of habit and they readily adapt themselves to moving at the desired times from one area to another. Substantial hand labor and man hours are eliminated by keeping the cows relatively confined and the quantity and quality of their milk is markedly enhanced.

According to a feature of the present invention, the areas in which the cows are confined are so constructed that they can be periodically flushed clean by water which is collected and utilized thereafter. Some of the waste products which accumulate on the floor of a dairy barn are manure, urine, feed, stall bedding material, and milk. All of this waste is removed by the flushing water and formed into a fertilizer slurry which may be applied by suitable sprinkler irrigation mechanism to the fields surrounding the barn. The slurry is diluted to an extent that there is no objectionable odor and flies and other pests are not attracted. There is little fertilizer value loss because the slurry is applied while still relatively fresh to the soil in a condition in which it can be easily absorbed. An application of slurry to a field may be followed by an application of clear water which will wash out the sprinkler system and clean the foliage in a field. Much greater soil productivity is thereby achieved and feed, as well as other agricultural products, can be produced in greater and better quantity. If desirable, it is also possible to transport the slurry by tank cars or trucks to locations remote from the barn for use as fertilizer.

According to a feature of the invention, the areas over which the cows are free to roam in the barn are of a hard-paved surface, such as concrete, and are on a slight angle so as to permit drainage in a desired direction into collecting tanks. Water-dispensing means are so constructed and positioned that they can be automatically actuated at predetermined times to release relatively large quantities of water for washing the barn floors. The wash water is collected for subsequent fertilizer use, as previously mentioned.

According to another feature of the invention, the rest stalls of the cows are constructed so that a cow's body can comfortably fit in the stall, but cow offal is deposited outside the stall on the concrete floor which is flushed.

According to still another feature of the invention, just before a cow moves into milking position, the cow's udder and surrounding areas, such as flanks and lower rear legs are washed clean. The cow is also stimulated for easier and quicker milking. In this process, the cow's udder is subjected to a spray of warm water and thereafter primed for milking. This stimulates the cow to let her milk down and immediately thereafter the cow is milked. A cow which is milked according to the method of the invention not only produces more and better milk, but udder damage and mastitis are materially reduced and the period of time over which a cow will be productive is increased.

According to still another feature of the invention, the cows just prior to milking pass through a series of stalls having gates which are operated by the movement of the cows whereby each cow will be in a milking station at a desired time and in optimum milking condition.

These and other features of the invention will be explained in greater detail in conjunction with the drawings, in which:

FIG. 1 is a schematic top plan view of a dairy installation in accordance with the present invention;

FIG. 2 is a section on the lines 2—2 of FIG. 1, showing cows standing in resting stalls;

FIG. 3 is a top plan view of a cow lying down in a resting stall;

FIG. 4 is a side elevation of a water-dispensing dump tank according to the invention;

FIG. 5 is an enlarged top plan view of the milking area of the barn of FIG. 1;

FIG. 6 is a section on lines 6—6 of FIG. 5, showing a gate;

FIG. 7 is a section on lines 7—7 of FIG. 6, showing mounting of control rod and gate;

FIG. 8 is a top plan view of a portion of the front gate and spray-washing mechanism of the washing stall of FIG. 5;

FIG. 9 is a side elevation partly in section of a portion of the cow holding area, dam in lowered position, and crowding mechanism;

FIG. 10 is an enlarged side elevation partly in section of a portion of FIG. 9, showing the dam in raised position; and

FIG. 11 is an enlarged side elevation partly in section on lines 11—11 of FIG. 10, showing a venturi connection.

Referring to FIG. 1, there is generally indicated at 10 a building enclosure or barn which is divided into various areas. Milking wing 11 has a cow-holding area 12 in which cows are confined just prior to milking. The cows are maintained in groups or units indicated at A, B, C, D in FIG. 1. The cows from a particular group are milked together and the milking times of the various groups may be arranged so as to provide for a convenient schedule of milking the cows and cleansing of the various areas of the barn. Each cow has her own stall 13 within a resting area 14 that corresponds with her particular group. Each resting area opens on to a central transfer or roaming area 15 and feeding areas 16. Gates 15a control movement of the cows from the rest and feeding areas into the transfer area. The cows are not confined to their stalls and are free to move between rest and feeding areas as they desire. This will, of course, usually be when feed is made available to them in the manner about to be described.

Feed-storage silos 17 are connected by suitable mechanically driven and controlled conveyer means 18 to feed troughs 19 in feeding areas 16. Mechanism 18 may be adjusted to deliver the amount, type, and frequency of feed desired to troughs 19. If desired, each silo can be filled with a different type of feed which is metered in predetermined amounts to the automatic conveyer mechanism which deposits it in the feed trough where it is freely accessible to the cows.

It will be appreciated that the number of groups of cows, as well as the number of cows in each group, can be varied and the construction of the barn will be appropriately adjusted.

All of the floor area of the barn over which cows are permitted to walk is covered by a relatively smooth, hard surface, such as concrete, which will satisfactorily withstand repeated washings. The floors are sloped so as to permit drainage towards grate 20 of a fertilizer recovery and utilization system, generally indicated at 21. A uniform slope of the barn floors at a rate of around three feet per hundred feet has been found to be satisfactory.

As best seen in FIGS. 2 and 3, each of the cow-resting stalls 13 is defined by a front wall 22, side-dividing and cross members 23, 24, and floor 25 which is raised above the level of alley floor 26. The length and width of a stall 13 is such that a milking cow of a particular breed can comfortably accommodate herself in a stall in either standing or lying position. Commercially operated dairies usually milk only cows of a particular breed whose sizes do not vary materially. However, if for any reason it is necessary to accommodate cows of varying sizes and dimensions, the stalls can be varied by use of a movable neckboard 28 on sloped guide rails 29 whereby the board may be adjusted depending on the length and height of a particular cow. The important consideration in either case is that the size of the stall is such that all cow offal falls outside the stall and is deposited in alley 26, which is sloped as previously mentioned. The cows are prevented from turning in their stalls and their bedding 27 remains clean and dry and off of the floor areas subjected to water flushing, as hereinafter described.

At the uphill end of each alley 26, means for releasing a relatively large amount of water to flush the alleys clean are provided. The water-releasing means may conveniently take the form of dump tanks 30 (FIG. 4),

comprising a large water-holding container 31 pivotally supported at either end on stub shafts 32 suitably mounted on frames 33 resting on alley floor 26. Shock absorbers 34 are connected by cranks 35 to shafts 32. Counterweight 36 is mounted on the back side of container 31. Adjustable return stops 37 are mounted on either end of container 31 and adapted to engage the frame 33 to position the tank in upright position. Water-inlet hose 38 is connected at one end to the tank and at another end to water-control means 39, which may be adjusted depending on the desired rate of water flow in the tank. When container 31 is filled above line 40, the tank tips forward and dumps a sheet of water 41 on the floor. The empty tank is returned to upright position by the counterweight for refilling. It will be appreciated that a tank may be adjusted automatically to release desired amounts of flushing water on a cyclical basis, such as every four hours.

Turning now to the milking wing, as seen best in FIGS. 1 and 5, four milking station stalls 45a, 45b, 45c, 45d are positioned around a pit 46. Inside the pit an operator stands and applies connections from the automatic milking machines (not shown) to the cows. Each milking stall has a pair of air-operated gates 47, 48 which are controlled by the operator through suitable control mechanism (not shown). When operated, the gates swing open to a position shown in dotted lines in FIG. 5, permitting a cow which has been milked to leave the stall and the next cow to be milked to enter the stall. Water sprays 44 continuously spray water on the floor in the milking stalls in order continuously to remove spilled milk and any cow offal. Immediately behind milking stalls 45a and 45d there are two milk stimulation stalls 49a, 49b, each having sprays 50 for directing warm water or warm drying air against the udder and surrounding areas of a cow standing in the stall. A feed box 51 is provided at the forward end of each stimulation stall into which, through automatic means (not shown), a predetermined amount of feed is placed in the box each time a cow comes in the stall.

Referring to FIGS. 6 and 7, there will be explained the construction and operation of gate 52 in stall 49b which is similar to the other air-operated gates employed in the other stalls in the milking area. Post 53 of gate 52 is hinged at 54 to post 55 of the stall. Cylinder 56 mounted on rail 57 is connected by piston 58 to gate 52. Air lines 59 are connected at one end to cylinder 56 and at the other end (not shown) to actuating means controlled by opening of gates 47, 48 of milking stalls 45c, 45d, whereby when one of those milking stalls is free, gate 52 opens and a cow within stall 49b is free to enter the open milking stall. Control rod 60 is pivotally mounted at 61 on post 55 at the front of the stall and operated by the cow as she leaves the stall. Back end 62 of rod 60 is adapted to engage plunger 63 of air lines 64 which control closing of gate 52 behind the cow and opens a gate 65 permitting a cow to pass from washing stall 70 into whichever of stalls 49a or 49b is open.

A cow enters washing stall 70 through gates 71 flanked by guide rails 72 when the gates are opened under control of gate 48 of a milking stall opening. As a cow moves into stall 70, she engages a control rod 73 in the stall that actuates spray heads 74 positioned in the floor of the stall to eject a spray of water that will wash the udder and surrounding areas of the cow standing in the stall. Heads 74 are turned off when gate 75 of the stall opens to permit a cow to leave the washing stall.

Referring to FIG. 8, mechanism for controlling spray heads 74 is shown. Cylinder 76 is mounted on post 77 of the stall. Piston 78 of the cylinder is connected at 79 to gate 75. Operation of piston 78 is by air lines 80 which are controlled by opening of gates 65. When gate 75 is in closed position shown in dotted lines, it engages plunger 81 permitting water to pass through conduit 82

to heads 74. Opening of gate 75 disengages plunger 81 and shuts off water to heads 74.

When the cows are ready for milking, they will naturally congregate in the milking area. In order to expedite their movement through the milking stations and segregate the cows who are to be milked, there is provided in holding area 12 which leads into the milking area, a crowding device generally indicated at 85 (FIG. 9) one-half of which is shown, the other half being the same. Rollers 86 ride along top rail 87 on either side of the holding area. Transverse rails 88 extend between each half of the crowding device and are connected to one end of lever 89 which is pivotally mounted at 90 to side plate 91 hanging from wheels 86. A weight 92 is provided at the other end of lever 89. When the lever is pushed down, rails 88 are swung up permitting cows to pass underneath. When the cows are all inside the rails, they are lowered and as it is desired to move cows through holding area 12 in the direction of dashed arrow lines (FIG. 5), the crowding device is moved forwardly in the direction of the solid arrow (FIG. 9) by pulling cable 83. A stop 84 is positioned at the end of rail 87 to limit backward movement of the crowding device. The cows will one at a time then proceed through the washing, milk stimulation, and milking stalls in the direction of the dotted arrows (FIG. 5). Once a cow has been milked, she will leave the milking area of her own volition down cow-return alleys 93 to area 15, and to her stall or feeding area. The system of gates and rails will prevent her from mingling with cows in the holding area awaiting milking.

Near the juncture of holding area 12 and transfer-roaming area 15, a dam 94 is provided for controlling flow of flushing water from the milking area. Floor 95 of the milking area slopes into area 15 which slopes toward grate 20 at about a pitch of 3' in 100'. Water-retaining walls 96 extend along either side of the holding area. Wings 97 extend from one end of walls 96 to side walls 98 of the milking wing and dam 94 extends between the other two ends of the water-retaining walls. The dam comprises a steel plate 100 (FIGS. 9, 10) which at 101 is hinged to a channel iron 102 embedded in floor 95. A sheet of tough rubber-like material 103 prevents leakage of water between the plate and channel and along the sides when the dam is raised as shown in FIG. 10. A catch 104 on post 105 holds the dam closed when it is in raised position. When the catch is released, the dam is free to fall flat on the floor, as shown in FIG. 9. It is in the latter position while a group of cows are passing into the holding area preparatory to milking. Once all the cows are confined in area 12, the dam is raised to retain flushing water coming in the milking area. Water behind the dam may rise up to line 106. After a group of cows have been milked, dam 94 is dropped and a relatively large volume of water is released into area 15 which is thereby cleansed.

It will be seen from the foregoing that all of the water which is used to flush the floors of the barn drains toward grate 20 which is so constructed as to permit the water and entrapped offal to collect in tank 110 of the fertilizer recovery and utilization system (FIG. 1). Tank 110 may conveniently be placed underground and an agitator 111 in the tank mixes the water and offal into a slurry. Pump 112 and pipe 113 pass the slurry through a dewatering device 114 from which excess water is removed, and through a grinder 115 which grinds all large solids, feed, rest stall bedding material, etc., to a size small enough to pass through a sprinkler. The resulting slurry is maintained in another storage tank 116 having agitators 111 therein. When fertilizer slurry is desired, pump 117 pumps it from the tank into pipes 118, 119 connected to sprinklers 120 in the fields adjoining the barn. There is also connected to pipe 119 a source of clean water and pump 121 which pumps water under pressure into pressure tank 122.

Referring to FIG. 11, there is shown one way—venturi action—of passing slurry through the sprinkler system. At the juncture of pipes 118, 119 there is a coupling 123 and a restricted orifice 124 in pipe 118. Slurry under pressure passes through orifice 124 where it is mixed with clean water under pressure from tank 122 and moves in the direction of the arrows to the sprinklers. In place of the venturi a high presure centrifugal or other suitable type of pump could be used in the system.

It will be appreciated that the amount and mixture of fertilizer slurry can be controlled as desired. Also, after fertilizer slurry has been deposited in the fields, clean water can be sent through the pipes in order to wash them out and any fertilizer remaining on the foliage. In this way the fertilizer is washed into the ground, and there are no obnoxious odors or attraction for flies and other pests. If, in the winter or at other times, it is not desired to fertilize the adjoining fields, the storage tanks may be emptied into tank cars or the like for transportation of the fertilizer to other areas where it may be utilized.

It will be noted from the foregoing description of the invention that personnel to operate a dairy barn have been greatly reduced from that normally employed and that the cows to a great extent have been left free to move of their own volition. It has been found that cows are creatures of habit and learn a routine quickly, particularly where it is to their comfort and advantage. Cows therefore lend themselves readily to the desired cyclical movements from one area to another at the desired times with a minimum of human effort.

While the system has been explained with respect to specific embodiments of the invention, it will be appreciated by those skilled in the art that various changes may be made in the construction without departing from the scope of the invention as defined in the appended claims.

It is claimed and desired to secure by Letters Patent:

1. A dairy barn for cows and the like including a smooth, evenly contoured paved surface forming a floor providing a walking surface for cows in the barn, drain means for draining wash water from such floor opening to the top of the floor, said smooth, evenly contoured surface which forms such floor sloping toward said drain means whereby wash water discharged on the floor may be collected and disposed of through said drain means, said barn further including multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also of smooth pavement, but which is disposed at an elevation above the paved surface forming the floor, said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn, said barn further including defined feeding areas having feeding troughs with means for discharging feed to the troughs, a cow-holding area, a milking area and a transfer area all bottomed with the walking surface forming said floor in the barn, and floor-washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor-washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor.

2. The barn of claim 1, wherein said floor-washing means comprises a water dump tank disposed above the floor, and a mounting for the tank including means whereby the same may be tipped thereby to allow the contents of the tank to escape abruptly from adjacent the top of the tank and to cascade onto the floor to form a sheet of water thereon.

3. The barn of claim 1, wherein said floor-washing means comprises a dam for damming and collecting water as a pool directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor toward said drain means.

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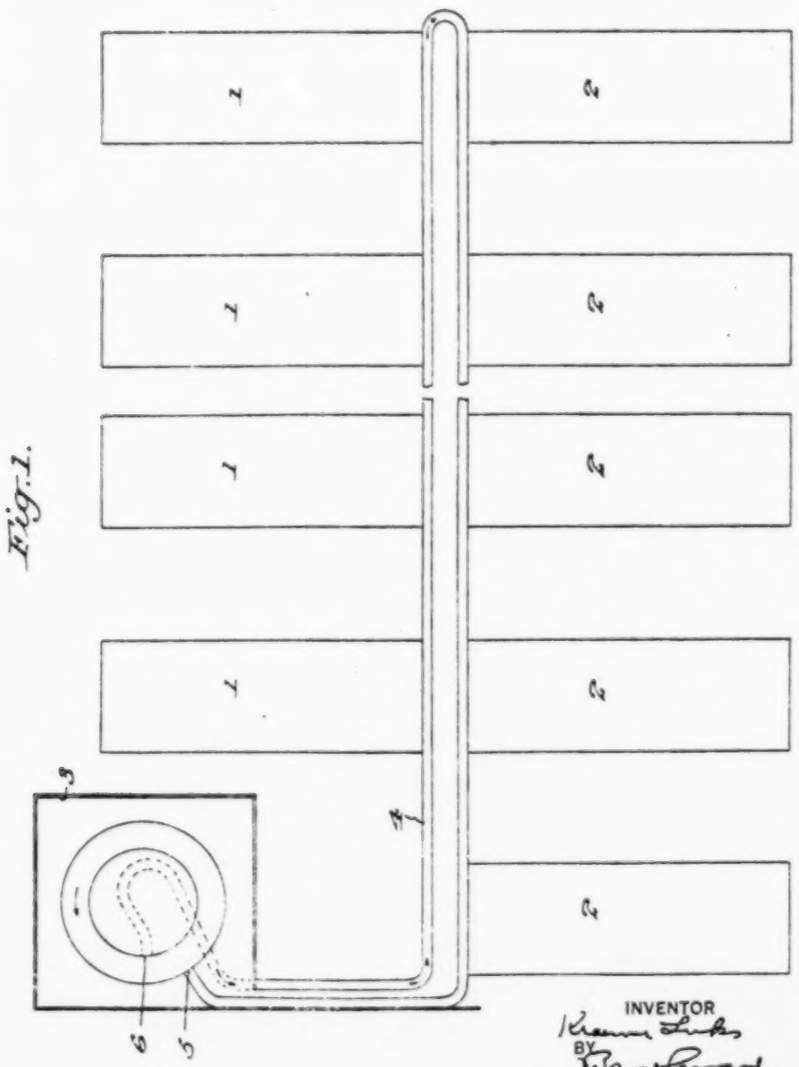
July 31, 1934. K. LUKS 1,968,564

MILKING APPARATUS

Filed March 17, 1928 4 Sheets-Sheet 1

Fig. 1.



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July 31, 1934. K. LUKS 1,968,564

MILKING APPARATUS

Filed March 17, 1928 4 Sheets-Sheet 2

Fig. 2.

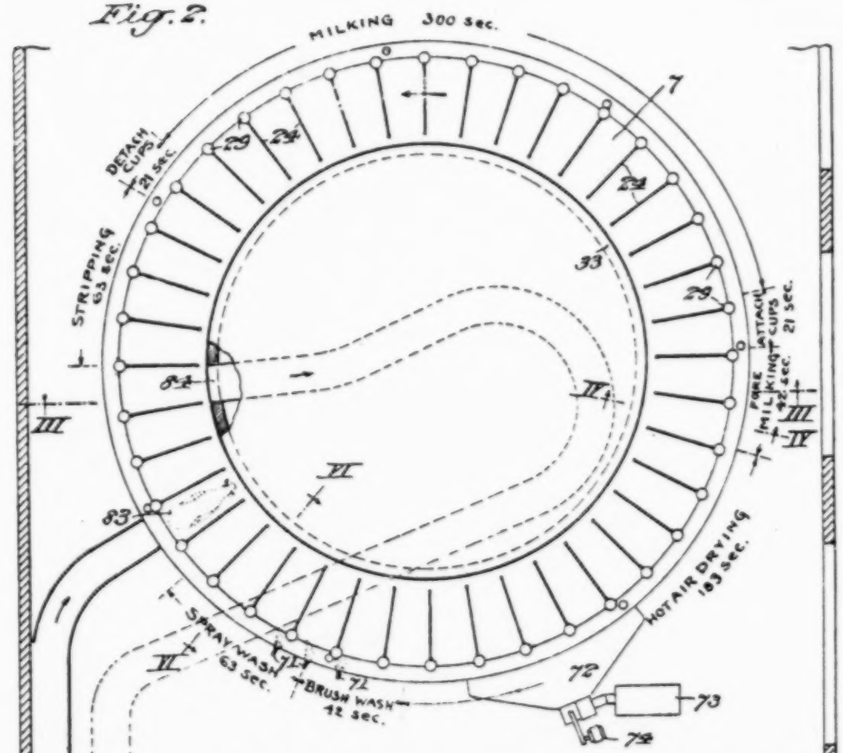
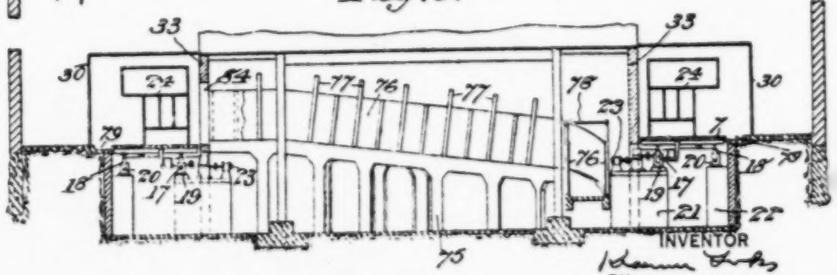


Fig. 3.



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July 31, 1934. K. LUKS 1,968,564

MILKING APPARATUS

Filed March 17, 1928 4 Sheets-Sheet 3

Fig. 4.

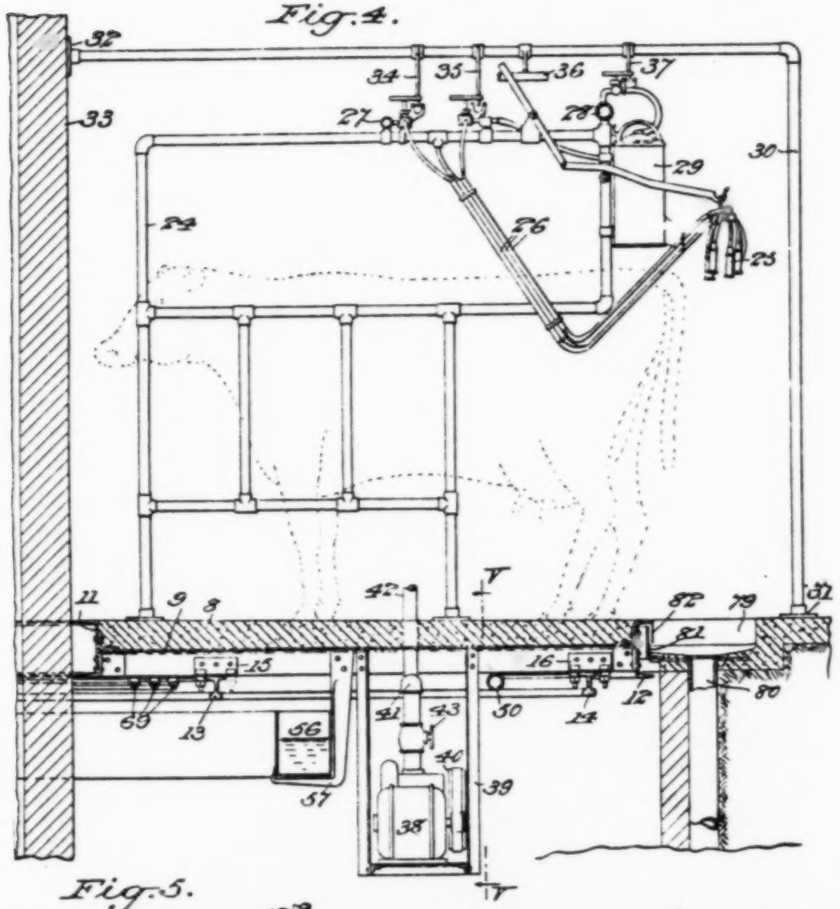
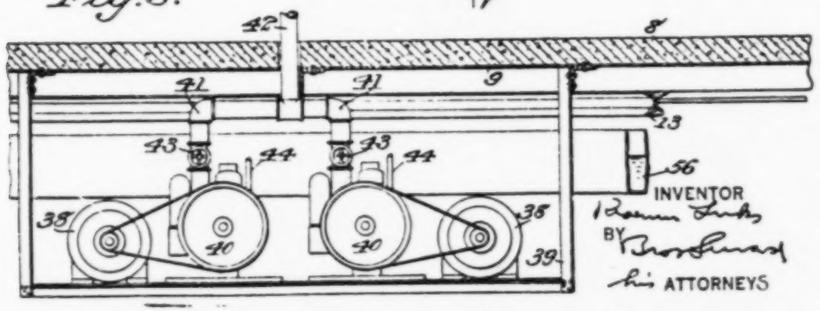


Fig. 5.



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July 31, 1934. K. LUKS 1,968,564

MILKING APPARATUS

Filed March 17, 1928 4 Sheets-Sheet 4

Fig. 6.

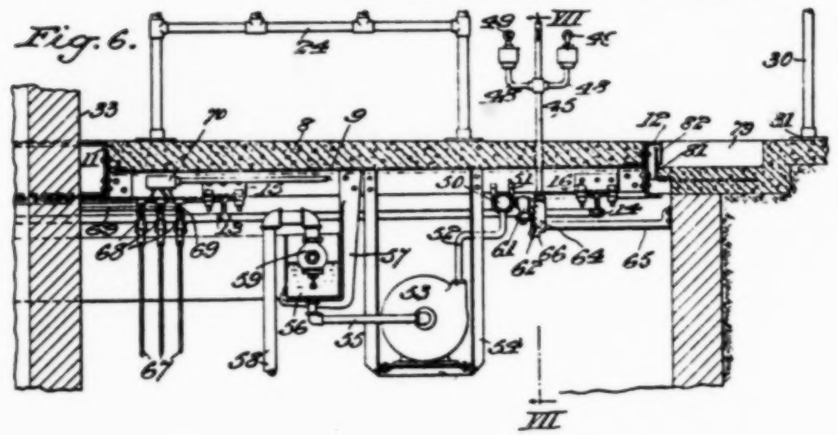
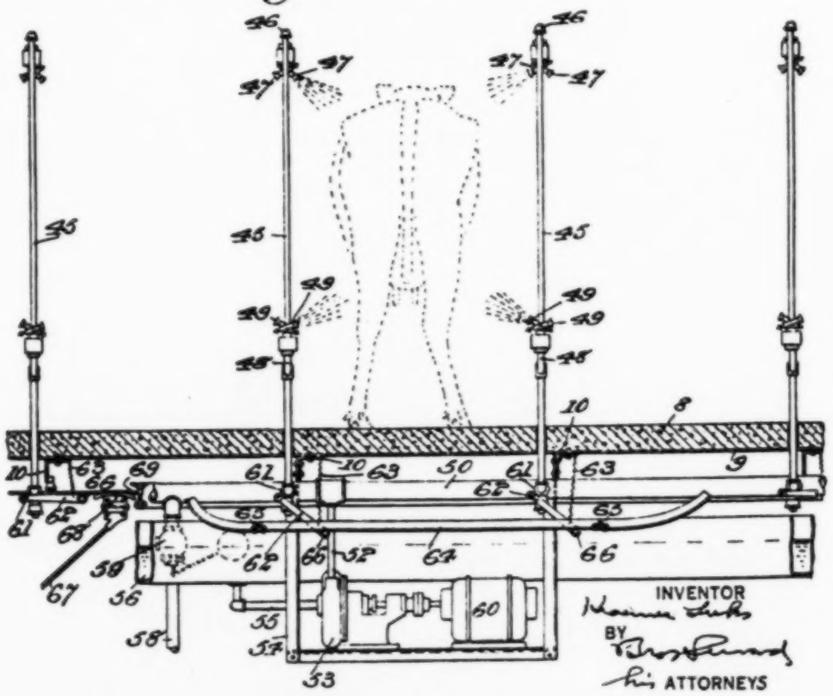


Fig. 7.



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Patented July 31, 1934 1,968,564

UNITED STATES PATENT OFFICE

1,968,564

MILKING APPARATUS

Kraemer Luks, Towaco, N. J., assignor, by mesne assignments, to Walker-Gordon Laboratory Company, Inc., Plainsboro, N. J., a corporation of Delaware

Application March 17, 1928, Serial No. 262,389

21 Claims. (Cl. 31—58)

This invention relates to apparatus for milking cows and contemplates the provision of means whereby a system may be established for the movement of animals seriatim from their barns and for subjecting them in sequence to all the operations incidental to hygienic milking while the cows are traveling on a moving platform.

Another object is to provide means whereby the cows file from their barns, walk successively into position on a moving platform, remain in said position on the platform during all the operations, and then successively step off the platform upon arriving at a given position and file back to their barns.

Another object consists in providing such an apparatus in which the traveling platform moves in an endless path, supports devices for performing certain of the operations, and successively passes stations at which are located devices appropriate for the performance of others of the operations, the said devices being arranged in such sequence as to require the correct succession of the operations, and being located at such distances apart as to allow the correct amount of time for each operation before any given animal reaches the succeeding station.

Another object consists in providing such an apparatus in which the moving platform is annular in form and the stations for certain of the operating devices are located around its outside circumference, while its inner circumference is employed for the exit of the animals and for the location of any such complementary structure as may be desirable. This arrangement allows adequate room for the operating devices because the outside circumference is, of course, much greater than the inside, and it also facilitates the said operations because of the relatively slow linear speed of the outside circumference at any given R. P. M.

Another object is to provide such an apparatus which has the capacity for handling a large number of animals and yet is comparatively compact and simple in construction.

Another object consists in providing such an apparatus in which suitable relatively movable connections are established between the parts of the operating devices on the moving platform and the parts on immovable supports surrounding the platform so as to enable proper cooperative functioning of the said parts.

A further object consists in providing certain improvements in the form, construction and arrangement of the several parts of the apparatus whereby the above named and other objects may effectively be attained.

A practical embodiment of the invention is shown in the accompanying drawings, in which

Fig. 1 represents a broken diagrammatic view of a plant, illustrating a location of the cow barns and the milking apparatus suitable for carrying out the desired system.

Fig. 2 represents a diagrammatic view of the moving platform and certain connected parts.

Fig. 3 represents a section taken in the plane of the line III—III of Fig. 2, looking in the direction of the arrows, and including certain parts not shown in Fig. 2.

Fig. 4 represents an enlarged detail section taken substantially in the plane of the line IV—IV of Fig. 2 looking in the direction of the arrows.

Fig. 5 represents a detail section taken in the plane of the line V—V of Fig. 4 looking in the direction of the arrows.

Fig. 6 represents an enlarged detail section, on the same scale as Fig. 4, taken substantially in the plane of the line VI—VI of Fig. 2 looking in the direction of the arrows.

Fig. 7 represents a section taken in the plane of the line VII—VII of Fig. 6, looking in the direction of the arrows, and showing certain parts more completely.

The general system followed in the individual application of my invention may be a matter of substantial importance and, in order better to visualize the same, reference may be had to Fig. 1 in which the general lay-out is diagrammatically represented. Two series of barns are marked 1, 2. The building in which my improved apparatus may be housed is indicated by 3, and an endless walkway for the cows is marked 4. This walkway is arranged so as to meet with the upper level of the apparatus at the ingress point denoted by 5, and to leave on the same level at the egress point marked 6, and then be depressed and pass under the apparatus, as indicated in dotted lines, until it rejoins the main walkway at the normal level thereof. The arrows on the walkway denote the path of travel of the animals, and it will, of course, be understood that they file in sequence from the barns 1 and 2 for the milking operation, and return to the same thereafter, in accordance with the predetermined system under which the plant is operated.

The moving platform is denoted generally by 7, and it preferably takes the form of an annulus fitted to be supported in a suitable depression formed in the foundations of the building for housing the apparatus. The said platform or

turntable may have a cementitious surface 8 supported on metallic or other suitable flooring 9 carried by angle iron or other appropriate beams 10. The said beams 10 are radially disposed at suitable intervals around the platform 7 and their inner and outer ends are riveted to and supported by channel girders 11, 12, that are suitably curved so as to conform to the shape of the platform.

A pair of concentric rails or tracks 13, 14, are secured to the under sides of the beams 10 by suitable clamping devices 15, 16, and the said rails are designed to rest upon two concentric series of wheels 17, 18, (see Fig. 3) which are properly mounted in order to constitute means for supporting and permitting rotary travel of the platform 7. The said rails may be ordinary railroad rails and the wheels similar to railroad car wheels.

Series of journals 19, 20, carry the wheels 17, 18 and are themselves mounted on supports 21, 22, which may conveniently be composed of reinforced concrete.

Two of the wheels 17, preferably diametrically opposed, are positively driven from motors 23, through suitable connections of conventional form. The driving of the said wheels 17 serves to rotate the platform 7 at desired speed. I find a peripheral speed of the outside circumference of the platform amounting to twelve feet per minute to be satisfactory.

In order to prevent slippage between the wheels and rail in the drive, it is desirable to have the journals 19 yieldingly mounted in any well known or approved form. Such mounting may also be provided for the journals 20 that carry the wheels 18, if desired.

The upper surface of the platform 7 has a series of radially disposed divisions which are marked 24. In the present instance 40 of these are shown, and they may conveniently be composed of hollow iron piping suitably fixed on the cementitious surface 8. The said devices are spaced apart at such distance as to establish between each contiguous pair a stall for a cow, so that forty cows can be accommodated at one time on the platform. It will, of course, be clear that this number may be increased or decreased by varying the size of the apparatus.

Each of the said devices 24 constitutes a means of support for a suitable milking machine intended to be operative during a portion of the time the animals are being transported on the platform. The said milking machine is illustrated in Fig. 4 of the drawings but, as it constitutes no part of my invention and is described in a copending application of Cyrus H. Hapgood, Serial Number 262,337 filed of even date herewith, the same will not be herein described other than to note that the teat cups are indicated by 25, the connecting tubes for operating them by 26, a pulsator pipe by 27, a vacuum pipe by 28, and the milk pail by 29.

The apparatus also includes a series of iron piping frames 30 which have their outer ends mounted on the foundation exterior to the platform, as indicated at 31, and their inner ends fastened, as at 32, to a wall 33, or other structure located within the inner circumference of the platform. The said frames 30 are suitably positioned and are calculated to carry actuating devices 34, 35, 36, 37, for the milking machines, all as shown and described in said co-pending application of Cyrus H. Hapgood. As these arrangements constitute no part of my invention, they will not be further described herein.

In order to provide power for the actuation of the milking machine, a pair of motors 38, 38, are carried in an angle iron sling 39 fast to the under side of the platform 7. Each of said motors drives a combined exhaust pump and pulsator 40, 40, the said exhaust pumps being connected by branch piping 41 to a main pipe 42 which is connected in any practicable way with the vacuum pipe 28 of the milking machine. It is intended to use only one of the motors and connected devices at a time, the second being supplied in order to eliminate interruption in the operation in case of breakdown. Valves 43, 43, in the branch pipes 41, 41, enable either exhaust pump to be connected with the main pipe 42. Pipe extensions 44, 44, from the pulsators, may be united with a single pipe that is connected with the pulsator pipe 27 in a manner similar to the vacuum pipe just described, or in any other well known or approved way.

The apparatus further comprises means for washing each animal after it takes its position on the traveling platform and before milking operation begins. This means consists of a series of stand pipes 45 which are coincident with the devices 24 and located near the outer circumference of the platform. Each stand pipe has an overhanging spray head 46 with a pair of nozzles 47, and a lower spray head 48 with a pair of nozzles 49. The said pipes are connected at their lower ends with a water main 50 that is circularly formed and carried by straps 51 beneath the radially disposed beams 10. The said water main 50 is supplied with water under pressure through a pipe 52 connected with a pump 53 that is hung in a sling 54 fixed to the under side of the platform. The said pump communicates by a pipe 55 with a circular trough 56 that is carried in brackets 57 bolted or otherwise secured to the beams 10. A supply pipe 58 from a suitable source leads into the trough 56 and the flow of water therefrom into the trough is governed by a float valve 59 similar to the common float valve usually employed in flush tanks. This arrangement provides for maintaining a predetermined level of water in the trough 56 and allows for relative movement of the trough and supply pipe during the rotation of the platform 7. The pump 53 may be driven from a motor 60 mounted in the same sling 54.

The actuation of the spray nozzles 47, 49, is governed by a valve 61, which is provided with a lever 62 normally urged upwardly by a retractile spring 63. A shoe 64 is carried by a bracket 65 fast to the foundation surrounding the platform and provided with upwardly curved ends, as clearly shown in Fig. 7. The said shoe is designed to contact with rollers 66 on the lower ends of the levers 62 and to depress the said levers against the action of the springs 63 in order to open the valves 61 and permit the water to be sprayed from the nozzles 47, 49. The length of the shoe 64 determines the extent of the period of spray.

All the previously mentioned motors are provided with power through three poles 67 that have shoes 68 at their upper ends which run on wire rings 69 carried on the under side of the platform 7, and communicating by suitable connections, generally indicated by 70, with the motors.

It may be desirable to have additional sprays playing upon the rear of the animal, and, to this

end, I have provided three spray heads 71 located on the foundation at a desired point contiguous to the outer periphery of the platform 7. These may be operated manually by any suitable form of valve construction, and serve to contact with portions of the animal not effectively reached by the sprays 47 and 49.

For the purpose of drying the animals following the spraying, a hot air hood 72 supplied from a suitable source of hot air 73 by a blower 74 is located on the foundation at a predetermined point adjacent the outer circumference of the platform 7. The said drying means is represented diagrammatically in Fig. 2 and may be of any well known or approved construction.

The exit walkway for the animals, shown in dotted lines in Fig. 2, is more fully represented, as to its construction, in Fig. 3, and may consist of reinforced concrete supports 75 flanked by walls or rails 76 with occasional uprights 77 having cross heads 78. The walls, of course, guide the animals, and the uprights and cross heads prevent disorder.

The surface immediately exterior to the outer circumference of the platform 7 has a gutter 79 formed therein with drain pipes 80 at intervals for the escape of the wash water and refuse. The said gutter is furnished at its inner edge with an upstanding guard 81 that cooperates with a depending flap 82 on channel beam 12 to prevent any splashing or seepage of the drain water from the gutter into the space beneath the platform.

The diagrammatic view represented in Fig. 2 is marked to indicate the successive operations and the proportional period of time allowed for each. When the apparatus is in use, an animal steps from the walkway 4 onto the traveling platform in the position indicated by the dotted figure of a cow shown at 83 in Fig. 2. The platform is, at that time, moving in the direction of the arrow indicated thereupon. Promptly after the animal reaches this position on the platform, the sprays come into operation and cleanse the animal during the period of time marked "Spray wash" on Fig. 2, which is indicated as being 63 seconds. Following this the animal may be washed with a brush manually for a period of 42 seconds. Thereafter the hot air drying takes place for a period of 183 seconds. When the drying has been completed there is a manual foremilking which is indicated to be completed within 42 seconds. Thereafter the operator attaches the teat cups 25 of the milking machine and is allowed 21 seconds for doing so. The milking machine is intended to be in operation for a period of 300 seconds, and then an operator is allowed 21 seconds for detaching the teat cups. Following this there is a manual stripping in order to complete the milking operation, and this is intended to be accomplished in 63 seconds. At the end of the stripping operation the cow has reached the point of egress into the walkway indicated by dotted lines in Fig. 2, and as this point is reached, the stall in which the animal is standing comes in coincidence with an opening 84 in the wall structure 33 and the cow, as is its wont, immediately steps through the said opening into the walkway.

The description which has just been given with respect to a single animal takes place with each animal in succession, and it will be understood that there is a continuous procession of the cows filing onto the moving platform, into the successive stalls, and off the platform into the walkway. Thus, from the time each cow leaves its barn until it returns thereto, there is a constant movement in a given direction so that the whole purpose is accomplished by systematic progression from the barn through the milking operations and others incidental thereto and back to the barn, without any reversal or confusion of movement. The periods allowed for the various operations are practicable and suitable but they are, of course, variable in accordance with individual judgment and the exigencies of any particular plant. Following the milking step, in any case, the milk pails may be emptied into suitable receptacles and the output from each animal weighed and recorded as described, for instance, in the said co-pending application of Cyrus H. Hapgood.

The disclosure of my invention herein set forth involves, also, a disclosure of other novel subject matter not my invention and which forms subject matter of the said co-pending application of Cyrus H. Hapgood.

It will be understood that various changes may be resorted to in the form, construction and arrangement of the several parts and in the periods of operation without departing from the spirit and scope of my invention; hence, I do not intend to be limited to the details herein shown and described except as they may be included in the claims.

What I claim is:

1. Apparatus designed for milking the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking the animals while on the platform and moving from the point of ingress to the point of egress.

2. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress.

3. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform.

4. Apparatus designed for milking the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

5. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

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6. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform.

7. Apparatus designed for milking the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

8. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

9. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

10. Apparatus designed for milking the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

11. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

12. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, and a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform.

13. Apparatus designed for milking the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform, and shelters for the animals spaced from the platform and connected in circuit with said walkway.

14. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform, and shelters for the animals spaced from the platform and connected in circuit with said walkway.

15. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform, and shelters for the animals spaced from the platform and connected in circuit with said walkway.

16. Apparatus designed for milking the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the in-

gress of the animals to the platform and their egress therefrom, and means for milking the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform, and shelters for the animals spaced from the platform and connected in circuit with said walkway.

17. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform, and shelters for the animals spaced from the platform and connected in circuit with said walkway.

18. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, an endless movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, part of said last named means being carried by the platform and part being mounted adjacent the platform, said point of ingress being at one side of the platform and said point of egress being at the other side of the platform, a walkway leading to the point of ingress and away from the point of egress and passing both over and under the platform, and shelters for the animals spaced from the platform and connected in circuit with said walkway.

19. Apparatus designed for milking and treating the animals of a group in succession, said apparatus comprising, a movable platform, means for actuating the same, means enabling the ingress of the animals to the platform and their egress therefrom, and means for milking and means for treating the animals while on the platform and moving from the point of ingress to the point of egress, said treating means including spraying devices carried on the platform, and means also carried on the platform for supplying liquid under pressure to the said devices.

20. In apparatus of the character described, a movable platform, spraying devices carried on the platform, and means also carried on the platform for supplying liquid under pressure to the said devices, said last named means including a liquid reservoir arranged to cooperate with a source of liquid supply off the platform, and mechanism for drawing liquid from the reservoir and forcing it to the said devices.

21. In apparatus of the character described, a movable platform, spraying devices carried on the platform, and means also carried on the platform for supplying liquid under pressure to the said devices, said last named means including a liquid reservoir arranged to cooperate with a source of liquid supply off the platform, mechanism for drawing liquid from the reservoir and forcing it to the said devices, and means for controlling the level of the liquid in the reservoir.

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METHOD AND APPARATUS FOR STORING AND DISPENSING FEED

Filed Oct. 10, 1932 9 Sheets-Sheet 1

Fig. 1

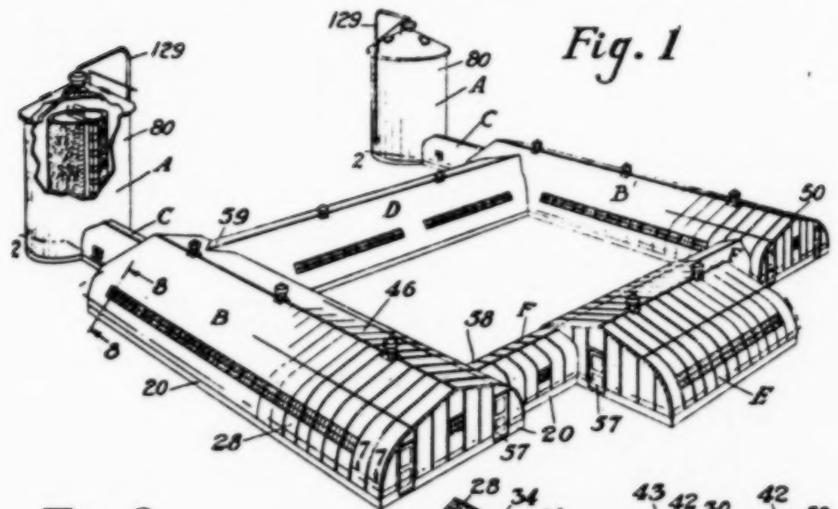

Fig. 2

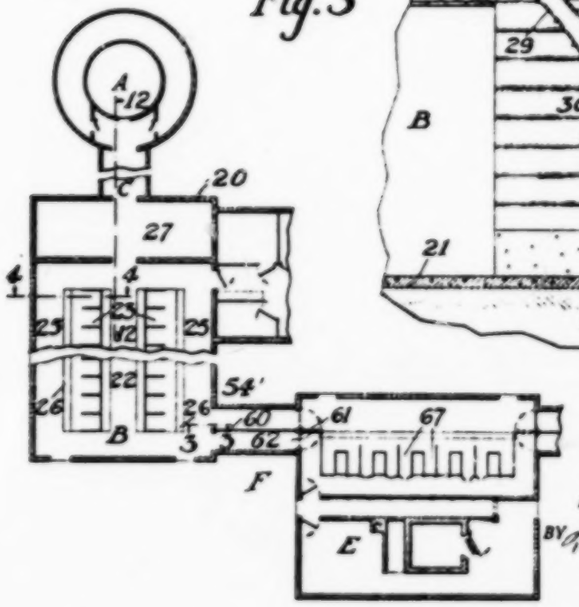

Fig. 3

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METHOD AND APPARATUS FOR STORING AND DISPENSING FEED

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Fig. 4

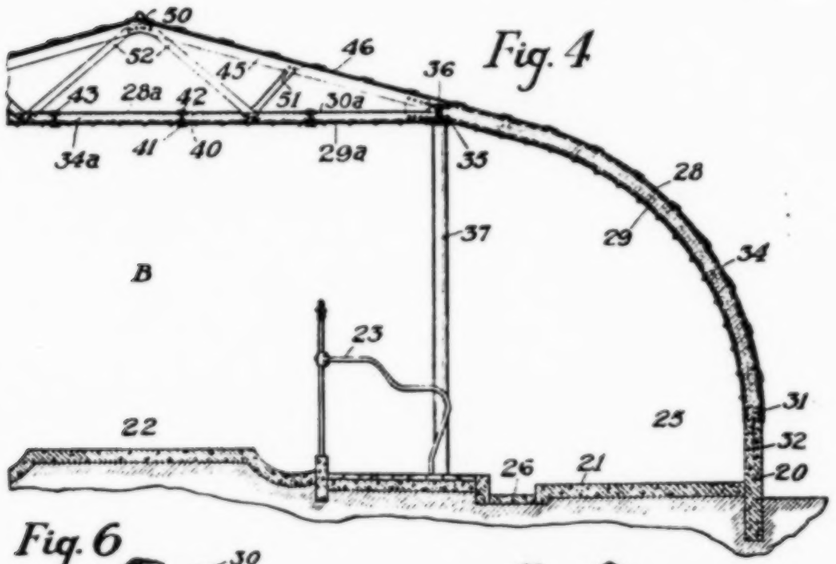


Fig. 6

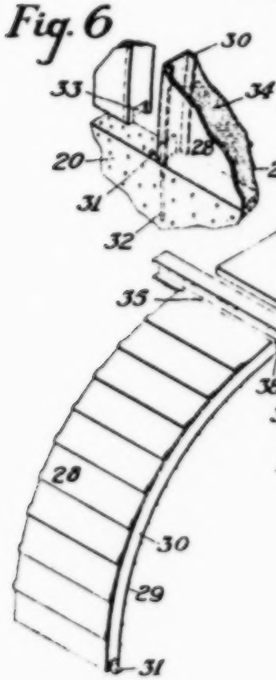


Fig. 5

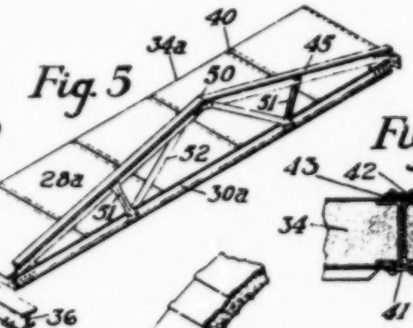


Fig. 7

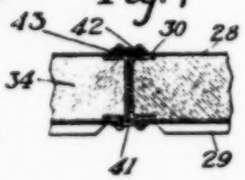
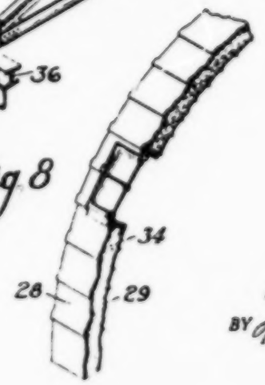


Fig 8



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Nov. 20, 1934. F. J. KREUTZER 1,981,417

METHOD AND APPARATUS FOR STORING AND DISPENSING FEED

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Fig. 9

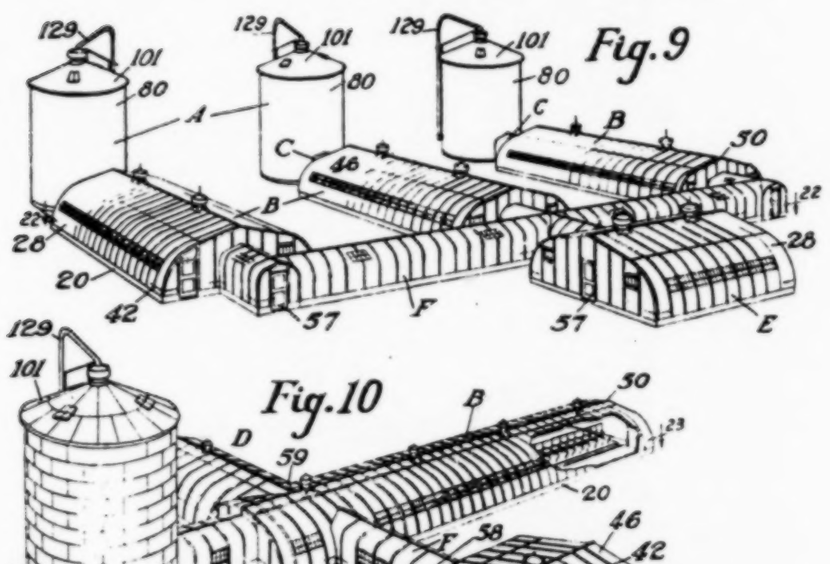

Fig. 10

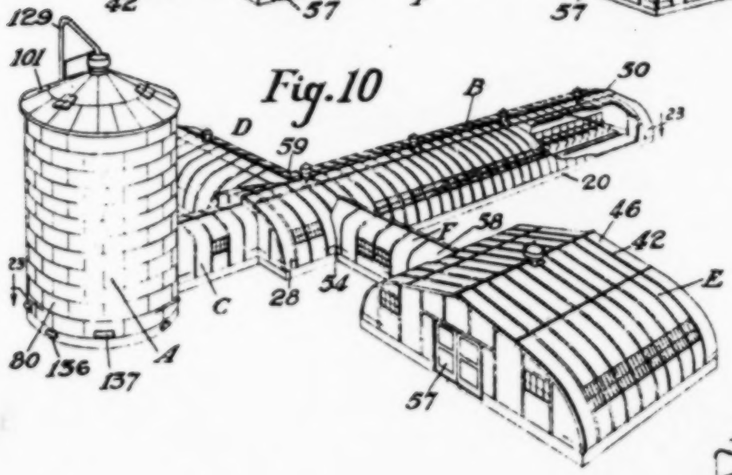

Fig.11

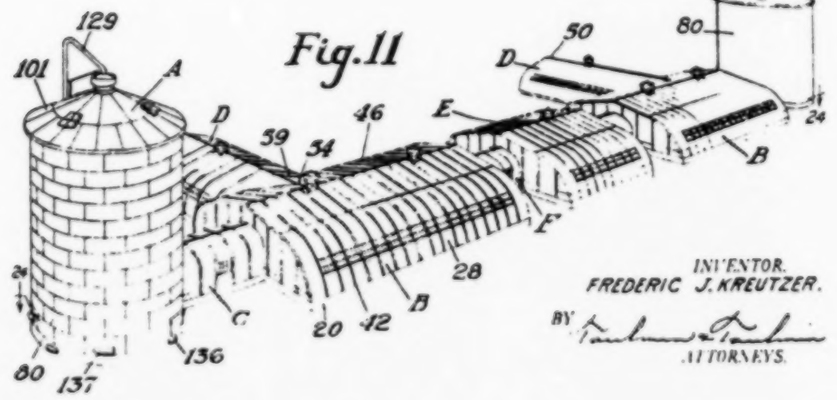

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Fig. 12

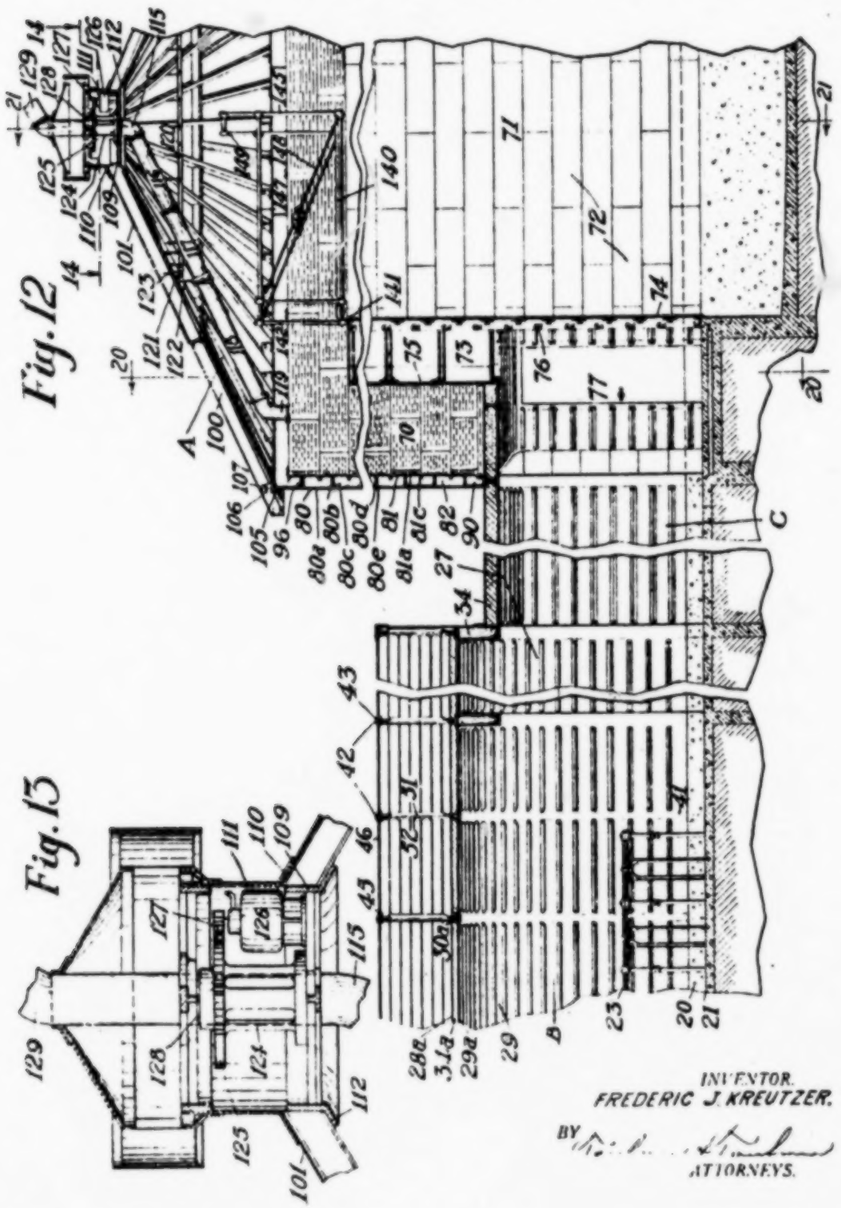

Fig. 13

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Fig. 14

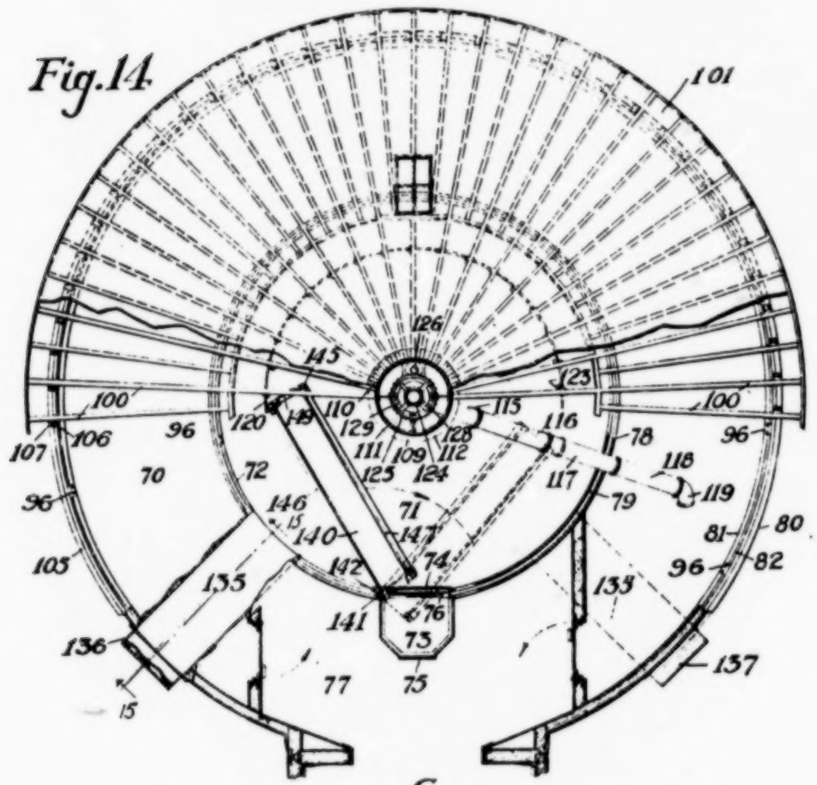

Fig. 15

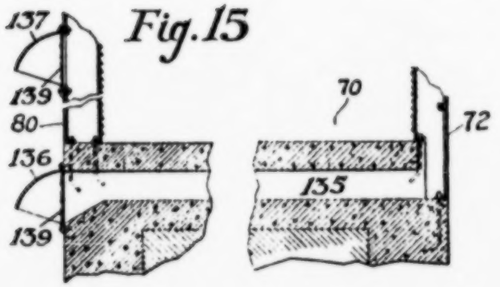

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Fig.16

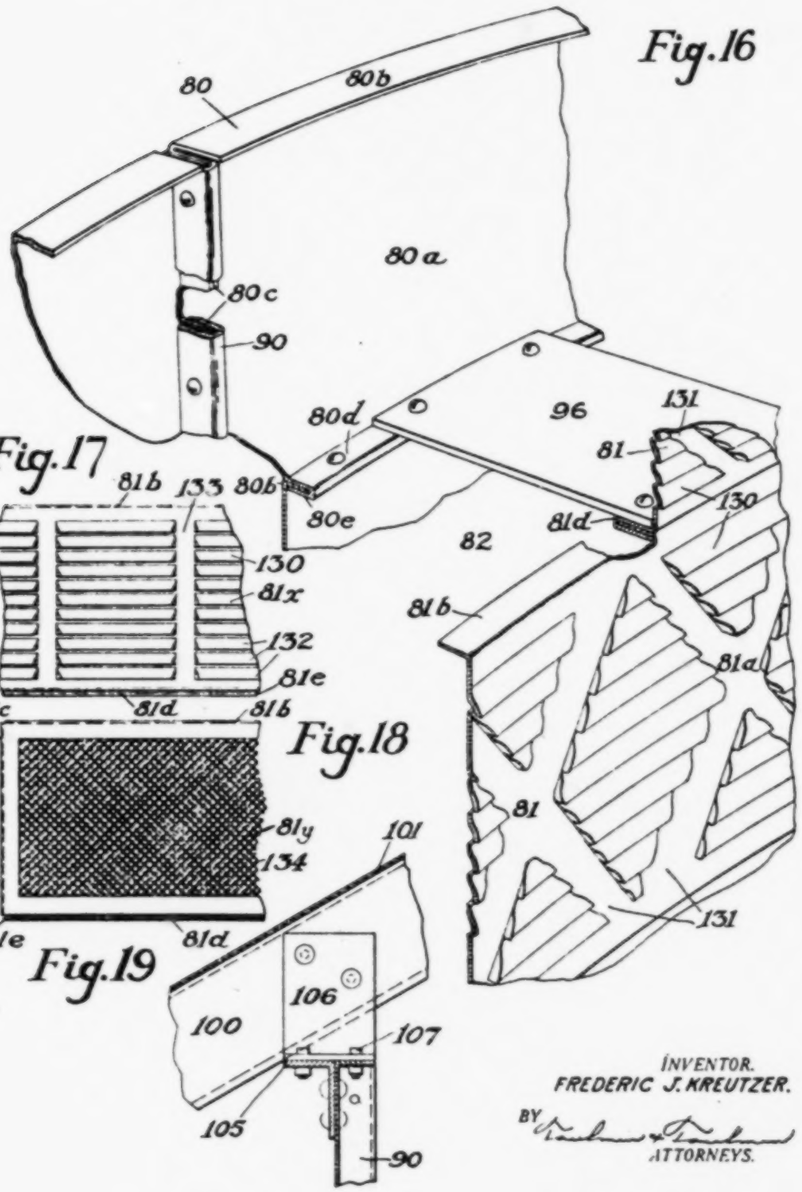

Fig.17

Fig.18

Fig.19

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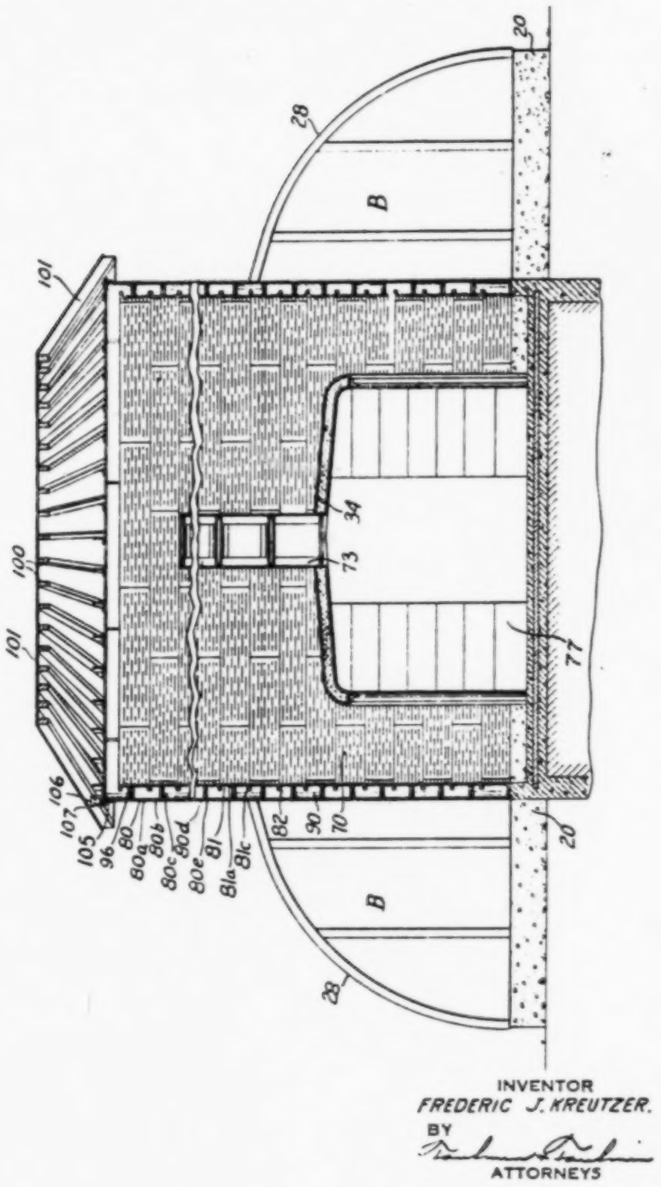
Fig.20.



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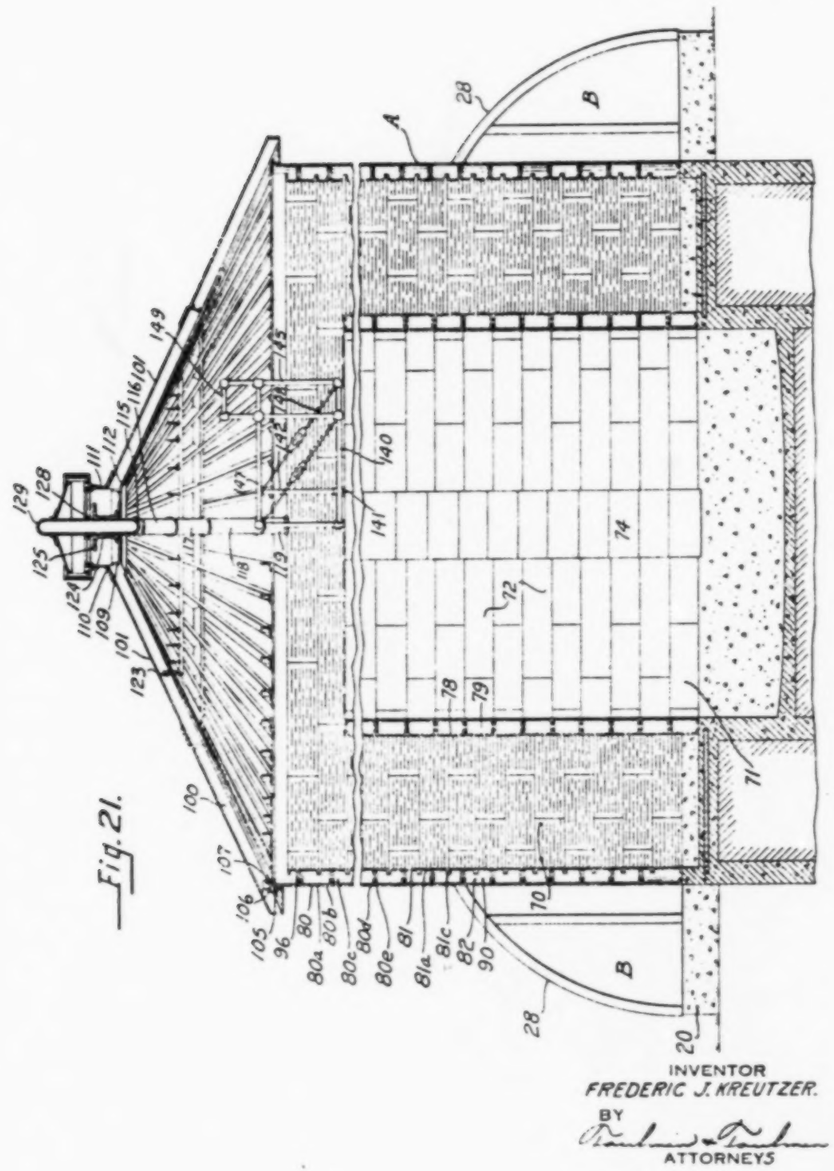

Fig. 21.

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Fig. 22.

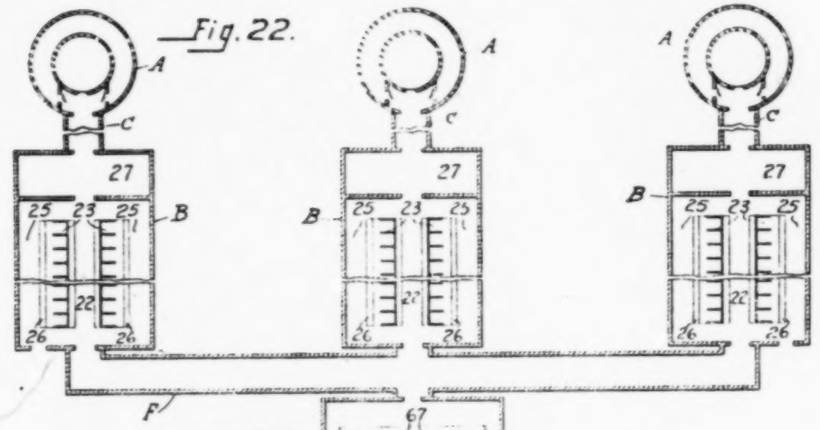


Fig. 23.

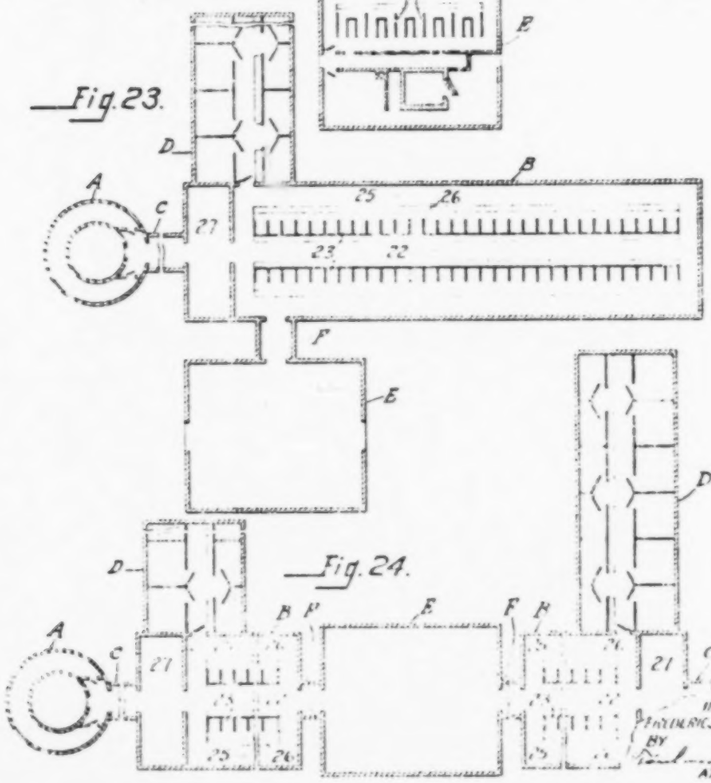
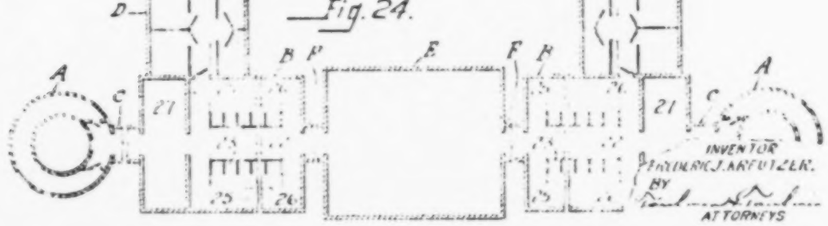


Fig. 24.



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Patented Nov. 20, 1934 1,981,417

UNITED STATES PATENT OFFICE

1,981,417

METHOD AND APPARATUS FOR STORING AND DISPENSING FEED

Frederic J. Kreutzer, Elmira, N. Y., assignor to James Manufacturing Company, Fort Atkinson, Wis., a corporation of Wisconsin

Application October 10, 1932, Serial No. 637,027

7 Claims. (Cl. 119—16)

My invention relates to an apparatus and process of preparing, storing and dispensing food to animals and of housing the animals in such a manner as to facilitate their feeding in connection therewith.

The primary object of my invention is to virtually eliminate fire hazards in structures of the described class and to make possible the complete protection of the feed and housed animals from fire.

It is the object of my invention to provide a process and apparatus for the practice of my process by which I am enabled to harvest without regard to weather conditions, moist or green hay, immediately store that hay and so store it and ventilate it that it will maintain its content as when green and will have the advantages of green feed; so that it will not be subject to fire due to spontaneous combustion, as I propose to remove all ignitible gases when and as they are generated, as well as to prevent the generation of any material amount of such gases; and to so store the hay that it will be removed after the lapse of a considerable period by degrees in such condition that it is the substantial equivalent of green feed, thereby enabling the feeding of green material, other than ensilage, during the winter period.

It is my particular object to provide a process and apparatus for the storing, in green or moist condition, or both, of hay, preferably in chopped form, and therefore capable of having a large amount introduced into a small space. When so stored it will be in such proportions that, while compressible, it would nevertheless be easily ventilated from top to bottom and from side to side and all combustible gases will be continuously removed as they may be generated.

It is my object to provide a combination of liquid bearing ensilage storage and relatively dry hay feed storage so as to permit of the ready removal of both types of feed, utilizing the ensilage storage as a part of the support for the hay storage, while at the same time maintaining an adequate ventilation of the storage.

In the actual practice of my invention suitable means may be provided for loading and unloading and for conveying the unloaded material from both ensilage and hay storage to points of feeding.

It is the object of my invention to centralize in a separate building separated by fireproof containers and passageways the storage of ensilage and hay, access to which may be had to remove such material in the proportions necessary to its feeding and no more, and to provide for such removal to the point of feeding where the animals are located through covered passageways so that it is not necessary to either expose the feed or the operators during inclement weather.

It is my object to provide separate systems of ventilation for the feed storage so segregated and for the animal houses to which batches of feed are intermittently conveyed and in which the feed is completely consumed so that no fire hazard from the storage of feed will be permitted in the animal buildings.

It is my object to provide a system of feed storage and animal housing ventilation; and a system of stalling and feeding animals, in combination with a system of supplying at stated intervals given quantities of green feed of diverse kinds.

It is a further object to provide an arrangement of interchangeable units capable of being manufactured in standard sections, capable of being assembled in diverse lengths into standard buildings and capable of assembly in a variety of combinations by putting together different units.

It is also my object to provide such a unitary construction for different sizes and types of such buildings that they may be adequately combined in varying combinations and are capable of indefinite extension in varying combinations, at the same time providing unobstructed ventilation and light for the interior of the buildings as well as easy egress and ingress of the animals housed therein and to provide ready accessibility to various parts of the buildings by attendant.

It is my object to provide a process and apparatus by which a number of extensible buildings, each consisting of a plurality of interchangeable sections, are provided, said buildings being used with hay storage containers, said containers and buildings being so connected in a system that there will be no fire hazard from the feed storage containers.

It is my object to provide a system of fireproof buildings and ventilated storage containers such that the diverse requirements of removing animal gases and heat from the buildings, and hazardous gases and heat from the storage containers may be taken care of without interference of the one with the other.

It is my object to provide fireproof buildings

capable of being manufactured in sections at a factory and assembled on the farm by simple assembly means.

It is a further object to provide a system of building a construction so that there may be interconnected fireproof circulatory buildings for stock feeding, milking, food conveying and food storage.

It is my object to provide a container, either with or without lightning rods, of such material as metal that is an excellent electrical conductor and which, owing to the large mass of metal, will carry electric discharge from storms without danger to the contents of the chamber; and to provide in conjunction therewith adequate ventilation to eliminate combustible and ignitible gases which may be generated in the mass, thereby eliminating not only the cause of fire but the means by which explosions and fires may be propagated.

A further important and specific purpose of the invention is to provide stables with means for storing dry fodder as well as silage in concentric storage chambers, the combined capacity of which will be adequate for all of said animals, the relative cross sectional areas of the concentric chambers being proportioned to the ration requirements of the animals, whereby the contents of the respective chambers may be kept at predetermined relative levels throughout the feeding period, and whereby dry material stored in the outer chamber may be utilized to thermally insulate and protect the moist contents of the inner chamber.

My object is to not only provide means for storing wholly or partially dried fodder in such a manner as to protect silage and other moisture containing food from frost but to provide for the association with stables of storage facilities for both hay and silage having such characteristics that conditions in either the stable or the storage structure will not affect conditions in the other structure, but in which transfers of feed from storage to stable may be facilitated to the maximum extent.

Other objects are to provide means whereby hay and other fodder having similar characteristics may be gathered from the field and stored with a sufficiently high moisture content to prevent leaf detachment, shattering, and other nutrient losses and reduce to a minimum the danger of deterioration in storage, the development of heat and gases such as emanate from ordinary hay mows and which tend to promote spontaneous ignition or explosion of gases and the growth of molds; to provide storage facilities which will permit of safe storage of hay and other fodder after a period of field drying of such short duration as to permit accurate forecasts of weather conditions between the time of cutting and storing; to virtually eliminate the danger to housed stock and to farm buildings from either wind or lightning, and reduce to a minimum the fire hazards resulting from the use of lanterns, lighted matches, and cigars, and from defective wiring in electrically lighted structures; and in general to provide a substantially fireproof animal housing and feeding structure having superior sanitation and improved lighting, ventilating and food handling facilities.

A further object is to provide means whereby such buildings may be constructed in accordance with a variety of designs from standardized factory made sections or members of convenient handling and shipping size which can be readily assembled by inexperienced persons at the place of installation in series of units capable of indefinite extension in accordance with the number of sections used, and in accordance with any one of various predetermined plans of arrangement in lineal form, quadrangular form, or other forms suited to a wide diversity of arrangement. Each animal housing unit is formed of factory made side wall sections of standardized dimensions and central or roof sections capable of lineal assembly in the desired number extending from side wall to a central ridge, whereby units of various widths may be constructed from sections identical with those employed for the construction of units of different widths, and whereby the length of any unit may be determined by the number of sets or groups of side wall and roof sections in longitudinal series.

A further object of my invention is to provide a housing and food storage structure of maximum capacity in proportion to roof area and wall area, and having minimum bracing and reinforcing requirements, whereby the cost of construction and the cost of heating may be reduced to a minimum.

In the drawings:

Figure 1 is an isometric view of an animal feeding and housing structure of a generally rectangular form;

Figure 2 is a horizontal section of a portion of the structure shown in Figure 1, drawn to a plane indicated by the line 2—2 of Fig. 1;

Figure 3 is a fragmentary view, in vertical section, drawn to line 3—3 of Figure 2;

Figure 4 is a fragmentary view, in vertical section, drawn to line 4—4 of Figure 2;

Figure 5 is an isometric view of a standardized arch section, a set of associated roof sections and a connecting post supported beam, said sections and the beam being slightly separated from a position of complete assembly and mutual support;

Figure 6 is a fragmentary isometric view, showing a fragment of one of the arch sections as it appears when attached to a foundation wall, and a detached fragment of an associated arch section;

Figures 7 and 8 are sectional views drawn respectively on lines 7—7 and 8—8 of Figure 1;

Figures 9, 10 and 11 illustrate various possible groupings of units similar to the units disclosed in Figure 1 and constructed from standardized sections of the same character;

Figure 12 is a fragmentary vertical sectional view drawn generally to line 12—12 of Figure 2 and showing fragments of the fodder storage chamber and associated stable and connected corridor;

Fig. 13 shows an enlarged view of a portion of the structure shown in Fig. 12;

Figure 14 is a plan view of the fodder storage chamber showing portions in horizontal section, drawn generally to line 14—14 of Figure 12;

Figure 15 is a sectional view of a base portion of the fodder storage chamber, drawn to the line 15—15 on Fig. 14;

Figure 16 is an isometric view on an enlarged scale showing portions of three interlocked outer wall sections of the fodder storage chamber in assembled relation to an associated lining wall support and spacing member, and also showing a fragment of the lining sections to which the

illustrated spacing member is directly connected;

Figures 17 and 18 are fragments showing modified forms of the foraminous ventilating passage walls in elevation;

Figure 19 is an enlarged view of a portion of the structure shown in Fig. 21;

Figure 20 is a section on the line 20—20 of Figure 12 looking in the direction of the arrows;

Figure 21 is a section on the line 21—21 of Figure 12 looking in the direction of the arrows;

Figure 22 is a section on the line 22—22 of Figure 9, the details of the feed receptacle A being omitted;

Figure 23 is a section on the line 23—23 of Figure 10, the details of the feed receptacle A being omitted;

Figure 24 is a section on the line 24—24 of Figure 11, the details of the feed receptacle A being omitted.

Like parts are identified by the same reference characters throughout the several views.

Buildings

The improved building structure shown in Figure 1 comprises a series of units, including one or more stable units, a milking room and pen unit, one or more fodder storage units, and corridor units for connecting the other units, said units being formed at a factory in standardized sections adapted for assembly in accordance with a variety of plans for arrangement of the units, either in a generally rectangular grouping of the units as shown in Figure 1 or in a lineal grouping, either with or without lateral extensions, as indicated generally in Figures 9, 10 and 11. All of the units in any group will preferably have a common foundation.

In Figure 1 I have illustrated two storage units A associated with two stable units B to which the units A are connected by corridors C. The stable units B are cross connected at the ends nearest the storage units by a pen unit D, and their other ends are cross connected by a milk house E and corridors F.

The various units are standardized in such a manner that the factory made sections may each include inner and outer walls and an intermediate layer of material adapted for thermal insulation, each section being capable of transportation and assembly at the place of installation, either in the form illustrated in Figure 1 or any one of the forms illustrated in Figure 9, Figure 10, Figure 11. Various other assemblies may be made as desired by the purchaser, and as hereinafter explained, the sections are adapted for the construction of units of any desired width or length.

Animal housing units

The structure of the animal housing units, the connecting corridors and the sections of which they are composed, will now be described in detail, after which the storage units, their component sections, and their relation to the animal housing units will be described.

The walls of the stable units will preferably have the general contour disclosed in prior United States Letters Patent No. 1,745,588, dated February 4, 1930, and granted to James Manufacturing Company, assignee of the invention herein claimed, except that for the purpose of housing live stock, the arched portion of the structure will preferably be supported by vertical walls 20 (Figures 2, 3 and 6) such as concrete walls which extend upwardly from the floor level 21 to a sufficient distance to provide the desired head room. The arrangement of the stalls is not material to the present invention, and the stall frames, mangers, etc., may be assumed to be of any ordinary construction. In Figure 2 I have illustrated a central passageway 22 flanked by rows of stalls 23 and marginal passageways 25 with interposed gutters 26 in accordance with ordinary practice in stables having two rows of stalls and a central feed passage. In the construction shown in Figure 2 this feed passage is aligned with a corridor C through which food for the animals may be conveyed from the associated storage chamber A, thus making it possible to employ ordinary carriers in so conveying the food supplies to the animals. End chambers 27 may be provided for the respective stables, and these chambers may be used for the storage of grain, meal, or other food supplies incapable of maintaining combustion unless such combustion is otherwise supported. In Figure 11 a stable with a double row of stalls is illustrated.

The side and roof portions of the stable units and all other units having similar exterior contours may be formed of upwardly and inwardly arched sections, the lower margins of which rest upon the foundation and the upper margins of which connect with tangentially extending roof sections and a ridge section which connects the roof sections at the respective sides of the ridge (Figures 4 and 5). The arched side sections may each be formed with outer walls 28 and inner walls 29, each preferably metallic and connected by arched frame members 30 preferably of the channel bar type. At their lower ends these frame members are secured to anchor bolts in the foundation 20 by angle clips 31, the horizontal portions engaging the anchor bolts 32 and the vertical portions being welded, riveted, or bolted to the central web of the channel bar 30 at one side, whereas the opposing channel bar of the adjacent section will preferably be provided with a notch 33 (Figure 6) in which the vertical flange of the angle clip is adapted to be received. The space between the inner and outer walls is filled with an incombustible heat insulating material 34 preferably composed of spongoid gypsum, or porous slag-like material capable of being at least partially self-supporting and containing a multitude of air pockets, whereby maximum heat insulation may be obtained with minimum addition to the weight of the section.

The upper ends of these arched sections at the respective sides of the unit may be provided with an end piece 35 which is adapted to be received between the upper and lower flanges of an I-beam 36 supported by posts 37. The upper surface of this beam is in substantial registry with or slightly inset from the upper end of the outer wall 28 of the arched section, whereby the outer wall of the next section may lap over the beam and the upper end of the wall 28. Connecting flanges 38 at the upper ends of the arched sections may be bolted to the central web of the I-beam.

At its opposite side the I-beam receives the end margin of a horizontally extending ceiling section which will now be described.

The ceiling sections may be composed of channel bar end pieces 40 connected by upper and lower metallic walls 28a and 29a respectively, and provided with non-heat conducting filling 34a. These channel bars are similar to the side

bars 30 and adapted to be bolted together as indicated at Figure 7, whereupon they may be connected with each other by metal battening strips 41—42, bolted or riveted to flanges of the channel bars. Similar battening strips are employed to connect the laterally adjacent arch sections. The outer battening strip 42, when exposed to the weather is preferably of a generally channel-shaped form adapted to receive a suitable packing 43 of bituminous material having a high melting point, adapted to provide an air-tight connecting point for the sections. The side of ceiling sections not formed by channel bars 40 are adapted to rest on the outwardly extending flanges of T-shaped frame members 30a with the lower surface 29a of ceiling section flush with the lower face of the flanges of frame members 30a.

Roof sections extend tangentially from the upper ends of the arched sections. These roof sections may comprise rafters 45 and a sheet metal roof covering 46. The lower ends of the rafters are supported by the I-beams 36.

The number of sections employed for each transversely extending set composing the roof and the ceiling will depend upon the width of the unit. Frame pieces 30a and 45 will preferably be one piece and of respective lengths for each variable width. Suitable braces 51 are employed to support the ceiling sections from the roof section. Braces 52 serve the additional purpose of securing the roof members 45 together at the ridge 50 by extending over and fastening to ends of members from both sides.

The outer covering of each roof section may be lapped over the upper margin of the outer covering of the next section below it, including the arched section, as shingles or metal roofing are lapped in an ordinary manner. Similarly, the outer covering of any arch section in registry with one of the corridor units or with a pen unit may be lapped over the outer covering of the corridor or pen unit, as indicated at 54 in Figure 3, this lapping of the outer covering of one arch unit upon another one at right angles thereto being extended downwardly along each side, as indicated by the dotted line in said Figure 3.

The corridor units may be wholly formed of side arch sections and ridge sections, since these sections will furnish corridors of sufficient width. The width of the corridor units may be varied however, from that described in the preceding sentence by varying the number of roof sections employed to connect each side arch section with the ridge section, the number of ceiling sections being varied accordingly.

The ends of units D and F of Figure 1 are made to join the curved side walls of units B (see Figure 1), the details of which are shown in Figure 3. The end walls of units B have vertical sections such as is shown at the ends of B and E (Figure 1). Where a corridor unit is so connected the associated arch section of the unit to which it is attached will be cut away, as indicated in Figure 3, to form a doorway or opening 54' between the supporting channel bar arches, but if doors are desired, partitions 55 will be erected (preferably in the corridor) these partitions being provided with framed doorways and doors 56. Where vertical end walls are used, doorways and doors of ordinary type may be provided, as indicated at 57 in Figure 1.

It will be noted that special corridor and pen unit sections 58 and 59, respectively, are provided to connect the corridors and pens with arched walls of other units.

The buildings E shown in Figures 2 and 22 are adapted for use by cows with calves, the partitions 6, 7, and the others shown allow for the housing of both cows and calves.

Milk room

To promote sanitation, and also to enable the necessary equipment employed in milking to be kept outside of the stables, I preferably provide a milk room unit E (Figure 2), the outer walls of which may be composed of the standardized sections above described. As shown in Figure 1, this milking room E is connected with the two stable units B and B' by corridors F. Each of these corridors has a longitudinal partition 60 (Figure 2), and at the ends which connect with the milking room, gates 61 and 62 are hinged in pairs to the end post of the partition, and so arranged with reference to milking room partition members as to control the movements of the animals to and from the room and alternately from the respective stables.

Use of such a room in the combination herein claimed enables me to remove milking operations and the milking equipment from the stables to a room that is wholly free from even the daily food supplies or any combustible material whatever, whereby electric lighting and operating equipment may be freely used with no danger that even the daily rations of the animals may become ignited by short circuits, or friction of mechanically moving parts.

The buildings D shown in Figures 23 and 24, illustrate enlarged stalls which may be used as pens for bulls or calves.

Feed storage

Fires in animal shelters usually originate from ignition of combustible fodder, such as hay, straw, and other dried vegetables. Ignition of such materials may occur spontaneously inasmuch as such materials necessarily contain considerable moisture when stored, and large masses thereof will almost invariably become heated nearly to the ignition point while curing in the mow. Also, such material is very readily ignited by lightning or by a spark from an apparently extinguished match or from a lighted cigar. It has been heretofore assumed that a very large animal loss of such farm buildings through fire is unavoidable, and this loss has become so frequent and heavy that fire insurance companies dislike to accept such risks.

The fire hazards have not heretofore been successfully eliminated by storing hay in stacks or in separate buildings for the reason that such stacks or separate buildings are necessarily located in such proximity to the stables as to not only allow fire to be communicated to combustible stable structures or animal housings, but the ordinary hay stack or hay barn burns with such rapidity and develops such intense heat as to injure or destroy animals in nearby housings, even though the housings are constructed of fire proof materials.

But I have discovered that it is possible to combine under one roof a silo structure and a hay or dry fodder storage chamber which encircles the silo, and by making this silo and the encircling chamber columnar in form, and preferably cylindrical, it is possible to provide storage for hay or other dry fodder in sufficient quantities to satisfy the requirements for all the

animals in an associated stable at less expense and with less wall and roof areas than is required for ordinary barns having basement stables and superposed hay mows. By forming the walls of the silo and the encircling storage chamber of metal or other fireproof material such structures may be located in close proximity to a stable which is also formed of fireproof material without danger of injury to the animals if the dry fodder should become ignited, since the latter will burn from the top downwardly, and initially the fire will be in the form of a torch at the top of the columnar structure, after which accumulations of ash will smother the fire sufficiently to prevent excessive heating of the adjacent stable or stables.

In its preferred form my storage unit comprises an annular hay storage chamber 70 (Figures 12 and 14) which encircles a silo 71 having a wall 72 which may be formed of any suitable non-combustible material, but preferably the walls of both chambers are formed in sections as hereinafter described. The silo has a vertical chute 73 along one side, this chute being located within the annular chamber 70 and provided with removable wall sections 74 affording access from the silo chute at different levels. Similar removable wall sections 75 permit access from the hay storage chamber to the chute 73, and at one side of the chute there are rungs 76 which serve as a ladder.

The bottom of this chute (Figure 14) connects with a passage 77 leading outwardly across the storage chamber 70 and communicating with one of the corridors C leading to an associated stable.

Ventilation of the hay

The silo wall 72 is encircled by a foraminous wall 78 which is spaced from the silo wall to form an annular vertically extending ventilating passage 79 on the outer side of the wall 72. The outer wall 80 of the hay storage chamber 70 may be formed of metal, tile, or other incombustible material and it will ordinarily be made circular in form in correspondence with the preferred cylindrical form of the silo wall 72. Spaced inwardly from this outer wall 80 there is another foraminous cylindrical wall 81 which provides an annular ventilating passage 82 for the outer side of the column of hay stored in the chamber 70.

By providing a ventilation space on both the outside, the inside and the top of the hay mass; and by providing the distance between such ventilation spaces no greater than that which will permit the free circulation of gases throughout the hay mass and their evacuation, I am enabled to continuously remove the gases and control the temperature in the hay mass. This action is improved by the use of chopped hay because I then deal with a product of uniform size and substantially uniform density when stored.

By employing a feed cutter for cutting hay and other dry fodder into short lengths it can be delivered into the annular chamber by the same means employed for delivery of silage into the silo, and I have discovered that for a stable housing fifty cattle and having an associated silo fourteen feet in diameter and a height sufficient to furnish silage to such cattle during an ordinary winter season in quantities to satisfy modern dairy requirements, an annular storage chamber for dry fodder may be so formed about the silo as to reduce the expense of storing hay to a minimum, and that such a concentric chamber will require a radius of only about five to five and one half feet between its inner and outer foraminous walls to provide storage for a complete supply of dry fodder to the animals for a period equal in duration to that during which they can be supplied with silage from the silo. The proportionate width of the annular storage chamber for the dry fodder may, of course, be varied to some extent in accordance with calculated requirements for properly proportioning the ration of dry fodder to silage, but the proportions above given are based upon standard rationing practice.

Ensilage freezing prevented

It thus becomes possible to utilize the dry cut fodder to protect the silage from freezing, the height of the dry fodder column maintaining the same proportionate level with reference to the silage throughout the feeding period.

It will be observed that the silo chamber 71 extends below the level of the chamber 70. Assuming that the capacities of the two chambers are proportioned in accordance with feeding requirements as to any given cross sectional portion, it will be obvious that the contents of the silo chamber may be kept continuously below the level of the contents in the storage chamber 70. Therefore, the hay will more effectively protect the silage from freezing.

My invention comprehends a construction of an animal structure embodying means for storing combustible foods without danger to the animals contained therein, and without danger of a destruction of the entire building if such combustible material should become ignited. I am the first to devise means for utilizing dry combustible material to protect silage from destruction by either fire or frost.

Protection from lightning

In my improved structure the outer metallic walls spaced from the hay storage chamber by annular ventilated passages form an excellent electrical conductor which, owing to the large cross section of metal, will carry almost any electrical discharge from storm clouds without danger to the contents of the chamber even though no lightning rods may be provided.

By the use of metal containers for the hay I am enabled to provide an excellent conductor for electricity, the mass of the metal being sufficient for that purpose. In conjunction with this metallic container I employ the ventilation system on both sides and the top of the hay mass so as to carry away any gases which might be ignited by static electricity.

By the provision of metal containers I also provide greatly increased heat radiating surfaces which serve to convey the heat away from the hay as generated in it, which heat is further dissipated by the air flow over the metal containers.

I, therefore, have the cooperative relationship between the metal, the dissipation of heat and the ventilation of the hay in accomplishing the object of preserving the hay against fire and explosion.

Continuous ventilation

I have also discovered that owing to the relatively small radial dimensions of the dry fodder or hay storage chamber, heating of the fodder during the curing period may be reduced sufficiently to eliminate the danger of spontaneous combustion and of the development of mold, by allowing the vapors and any generated heat units to be promptly carried away through the annular ventilating passages 79 and 82. Air, vapor, or other gases are required to travel a horizontal distance of only about two and one half feet from the center of the mass in order to reach either the inner or the outer ventilating passage. It will be understood that the dimensions indicated here are purely by way of illustration. The exact proportions depend upon the type of material being stored, the amount being stored and the general conditions of moisture and the like under which it is desired to store it. The principle to be followed is to never have the hay mass of greater size and thickness than can be conveniently, continuously and thoroughly ventilated throughout the entire mass so that there can be no rise in temperature to a dangerous point or an accumulation of combustible gases which may become ignited by electricity or otherwise.

While the silo wall and the outer wall of the fodder storing unit may be formed of any fireproof material, I prefer to form these walls of sheet metal and to construct them from factory made sections of standardized dimensions which can be readily assembled at the place of installation. Each section is arcuately curved in correspondence with the predetermined curvature of the wall in which the section is to be assembled, and each section is otherwise of a generally rectangular form. For example, the outer wall sections have a central web 80a flanked on three of its margins with a horizontal flange 80b and vertical flanges 80c, the terms "horizontal" and "vertical" having reference to the position of these flanges when assembled with other sections to form said wall. Along the remaining side of the web 80a there is a reversely folded flange composed of members 80d and 80e which are substantially parallel with each other with sufficient space between them to receive the flange 80b of an adjacent section, as best indicated in Figure 16.

The foraminous walls 78 and 81 are provided with webs 81a, 81x and 81y and may be similarly flanged, and these walls may be supported from the silo wall 72 and the outer wall 80 of the unit by spacing plates 96 which are bolted, riveted, or welded to certain of the horizontally extending flanges 80d of the outer wall or corresponding flanges of the silo wall and the similar flanges such as 81d of their associated foraminous walls, as also indicated in Figure 16. The sections in each annular series will have their respective flanges 80c and 81c butted and secured together by a channel-shaped bar 90 which is adapted to bind the flanges of adjacent sections together and to be secured thereto by bolts or equivalent fastening means or by spot welding, if desired.

The respective sections will be preferably so assembled that their flanges will extend into the respective ventilating passageways 79 and 82, whereby the outer surface of the exterior wall and the inner surface of the silo wall may be kept comparatively smooth.

A conical roof having metal rafters 100 and a sheet metal covering 101, formed in radially extending tapering sections, may be employed to cover both the silo and the dry fodder storage chamber 70. The sections which compose the roof covering will preferably have side margins provided with V-shaped rib flanges adapted to be lapped over or within the corresponding V-shaped flanges of the other sections in each annual series, whereas each of the upper sections is lapped over the upper margin of the sections in the next lower series as in ordinary roofing.

The rafters 100 may be connected with the upper margin of the top sections of the outer wall by flanged coupling members 105 (Figure 19) and L-shaped brackets 106, the vertically extending members of which may be bolted directly to the rafter in each case and the horizontal members may be connected by bolts 107 or equivalent means to the horizontal flanges of the coupling members 105 and the associated flanges of the top wall sections. Each rafter may comprise a single beam of any suitable cross section, it being immaterial to the invention herein claimed whether angle iron beams, or beams of any other cross section are employed. Their upper ends are supported in the channel formed at the lower margin of the cylindrical cupola wall 111. The flange 110 is conically inclined downwardly and outwardly, and the base ring 109 has a parallel flange 112 between which and the flange 110 the upper end of the rafter is received.

The cupola may be an ordinary ventilating cupola except that it is provided with an axially disposed vertically extending filling chute section 115, the lower end of which is connected with extension members 116, 117, 118, which extend downwardly and outwardly substantially parallel to the roof. An elbowed outlet member 119 may be connected to the lower end of the section 118, or to either of the other two sections 116 or 117. Therefore, the three sections may be employed to deliver material into the outer portion of the chamber 70, whereas the two sections 116 and 117 may be employed without the section 118 when the material is to be delivered into said chamber adjacent the silo wall.

The vertical section 115 is provided with a sleeve 124 which supports a spur gear wheel 125 which may be driven from a motor 126 by means of a pinion 127 secured to the motor shaft. The motor is employed to rotate the section 115 to carry the outlet member 119 in a circular path, whereby silage may be distributed annularly in the silo or cut hay similarly distributed in the annular chamber 70. The upper end of the section 115 has swivelled joint connection at 128 with a tube 129 which extends to the feed cutter or an associated blower for filling the storage chambers.

The foraminous walls 78 and 81 will preferably have the webs of their sections formed of sheet metal which is slitted at intervals, and the material between adjacent slits pressed into the form of a projecting louver 130 (Figures 16 and 17). These louvers may be separated by obliquely extending unslitted bands 131, as shown in Figure 16. If desired, however, parallel louvers 132 may be formed between vertically extending bands 133, as shown in Figure 17. But any other form of foraminous wall may be substituted, since these walls may, if desired, be composed of woven wire as indicated at 134 in Figure 18. The foraminous wall structure shown in Figures 16 and 17 are preferred for the reason that the unslitted bands 131 or 133 reinforce the structure.

The woven wire sections may be provided with angle iron frames which will afford adequate

strength, but these walls offer a greater obstruction to the passage of air and also allow small particles to pass from the chamber 70 into the ventilating passages, thereby necessitating a more frequent cleaning out of such passages.

To facilitate cleaning the ventilating passages of dust, fragments of leaves, and stems which may enter these passages from the hay storage chamber 70 I provide radially extending clean-out passages 135 in or underneath the floor of the storage chamber 70 and leading outwardly from the annular ventilating passage 79 to the exterior whereby suitable hooded coverings 136 will preferably be employed to protect the outlet of each clean-out passage 135. The lower sections of the outer wall of the chamber 70 will preferably be provided at intervals with clean-out openings protected by similar hoods 137. The outlet end of the passage 135 and the clean-out openings in the lower portion of the ventilating passage 82 will preferably be provided with suitable gratings 139.

Filling the food containers

When the chute is being employed for filling the silo both sections 117 and 118 may be removed and the outer member 119 coupled directly to the section 116. These sections are supported from an annular track 120 by means of a trolley 121 and hanger 122. The track is supported from the rafters by hangers 123.

To facilitate observation and manual manipulation of the rotatable end portions of the filling spout I provide a swinging platform 140 which has a sleeve 141 at one corner through which a post 142 extends. This post projects upwardly above the level of the platform and forms part of a trussed guarding frame in association with other vertical corner posts 144 and 145, top rails 146 and 147, and stay rods 148. The inner end of this platform may be swung upon the supporting post 142 to various positions over the silo, or even over the hay storage space if desired, whereby a person standing on the platform can reach the swinging filling chute or ascend to the cupola upon rungs 149 which connect the posts 145.

It will be observed that when the mass of chopped hay is blown through the pipe 129 thence downwardly through the pipe sections 116, 117 and 118 and out the spout 119, these sections act like a nozzle and, under the influence of the force of the hay being blown, the entire pipe will rotate about its support in the ventilator 111 with no other power to impart to it a rotary movement than that supplied by the blower supplying the chopped hay. This blower is not illustrated as it may be of any conventional character customarily used in connection with such mechanism on farms.

Process

One of the serious losses in the operation of a farm is the loss of hay which is spoiled by the weather. Such spoilage either results from being unable to cut the hay when it should be cut, because it is wet and cannot be cured when wet as heretofore known in the art, or because of the wetting of the hay after it has been cut while it is still in the field being cured. This is particularly true of some types of hay, such as alfalfa, which has to be cured with great care. While it is highly desirable to feed hay that is preserved in green or semi-green condition, this has heretofore been impossible during the winter months because the hay has to be cured and dried prior to storage. The advantages of green hay feed are similar to the advantages of feeding green corn in the form of ensilage.

According to my process, I cut the hay, even though it may have a moisture content due to inclement weather conditions, which would otherwise make the cutting or storing of it undesirable. This hay is chopped in an ordinary cutter and delivered in chopped condition into a tall, relatively narrow column, the sides of which are supported by any type of member permitting the free circulation of air to the center of the column and out through the column of hay.

The thickness of the column is never greater than that which would permit of this free circulation of air throughout the walls of the column and the body of the hay out of the top of the column. By making the column of annular cross section, it is possible to ventilate the inside and outside walls surrounding the hay column, and it is possible also to make the column of such thickness to permit continuous circulation of air through the hay mass.

Such circulation maintains the hay free from mould or spoilage; and permits of the rapid evacuation of combustible gases which might be fired by either static electricity or from the electrical system of the plant. Either natural ventilation thus achieved may be employed or supplemented by mechanical ventilation. This results in the chopped hay being maintained in a fresh, semi-green condition with all the value of green feed, of particular advantage to all stock in winter.

The hay is maintained in fresh condition due to the continued circulation of air, which is supplemented by the natural moisture content of the air present in the air particularly during winter time.

By the utilization of metal as the supporting walls for the hay container, I provide a satisfactory conductor of electricity to convey away any static electricity due to storms and the like to prevent the accumulation of any residue combustible gases, if any should happen to exist. I do not exclude the use of wood or of ceramic materials but when metal is used, I find that it has this additional advantage.

The next coordinate step in my process is the placing of a water-tight, preferably of sectional metal, ensilage tank or container on the inside of the hay containing cylinder which acts as a support for the inner wall of the hay containing cylinder and forms with that wall an impervious spaced wall through which air will be caused to circulate as described.

In the same manner an outside impervious wall is placed around in spaced relationship to the outside foraminous wall of the hay containing cylinder. This ensures the circulation of the air. Vent openings at the bottom of the outside wall and inside wall may be provided as indicated in Figure 15 to keep the entire circulatory system for the evacuation of gases from the hay.

Returning to the silo, I so proportion the size of the silo and the hay chamber that the hay chamber acts as an insulation for the ensilage, as these proportions ensure the reduction of hay and ensilage in about the same amount throughout the consuming season.

As the ensilage contains chopped green corn which has a certain amount of liquid in it, the wall of the ensilage chamber is liquid proof.

A common entrance passageway is provided from the feeding stables through these storage chambers, portions of the walls of the storage chamber forming portions of the walls of the entrance passageway. Such portions of the walls are removable to facilitate the removal of the hay and ensilage throughout the season. It will be noted that the walls of this entrance passageway are fireproof, being composed of metal and fireproof insulation so that in case of any fire, there could be no transmission of the fire from the storage chamber to the feeding stables.

This passageway extends as a tunnel through a portion of the hay cylinder up to the side wall of the ensilage chamber with a vertically disposed tunnel passageway leading upwardly to the hay and ensilage chambers.

As a part of the practice of this process, the green feed is removed from this passageway only in such amounts as may be necessary for the consumption of the animals at any one feeding to prevent the accumulation of any feed, so as to eliminate the fire hazard. The animals are fed according to my circulatory system in the feeding stables, to which feed is circulated to them from the storage chambers. The animals then circulate directly or through communicating passageways of fireproof character to a milking station E in progressive lots.

A common milking station may be the center through circulatory passageways F for the ingress and egress of batches of animals from the feeding shelters B, each of which feeding shelters is supplied from its own remotely connected storage chamber unit A connected to the feeding chamber by the fireproof passageway C. In this manner the several functions of the several buildings, according to my system of feeding are segregated.

They are independently lighted by natural light and ventilated. Their ventilation systems are entirely separate from those of the feed storage chambers. There are no storage chambers in any part of the animal feeding and milking chambers. Separate means of ingress and egress are provided from each unit.

The units themselves are so combined that they may form protecting exercising yards in inclement weather.

By making the buildings of pre-fabricated, sectional material, they are capable of being extended to varying lengths and in varied widths due to the number of group sections interposed between the side walls thereof.

It will be understood that I desire to comprehend within my invention such modifications as may be clearly embraced within the scope of my claims and invention.

It will be also understood that claims to the specific features of the animal buildings, together with adequate description and drawings are more fully set forth in my copending applications filed May 8, 1933; Serial No. 669,896; filed May 8, 1933, Serial No. 669,897; filed May 8, 1933, Serial No. 669,898 and it will be understood that the failure to so claim them in this application is not a dedication or abandonment of the novel subject matter thereof.

I hereby make a cross-reference to my copending application, Ser. No. 639,490, filed Oct. 24, 1932, for Improvements in buildings for animals and a system of handling and feeding animals. While some of the figures of the drawings in that application and some of the figures in the drawings in this present application Ser. No. 637,027 are the same, other figures in the drawings of each of these two applications do show constructions not illustrated in the other; and nothing claimed in this application Ser. 637,027 is claimed in said co-pending application Ser. 639,490.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. An animal housing and feeding structure comprising a stable composed of fire proof non-heat conducting walls in combination with an offset annular columnar storage chamber for dry fodder of greater height than the stable and having means for withdrawal of heat and moisture from the fodder at substantially all levels along both the inner and outer sides of the column, and means including a fire-proof corridor extending from said stable through part of said heat withdrawal means of said storage chamber to connect said stable with the interior of said storage chamber, whereby the said stable and chamber constitute separate structures but are connected to each other by a separate connecting corridor whereby any fire hazard in the storage chamber would be ineffective to injure the stable or its contents.

2. An animal feeding and housing structure comprising the combination of a columnar annular storage chamber for dry fodder provided with ventilating means along its inner and outer walls extending upwardly from the bottom portion and provided with top outlets, a stable extending laterally from the storage chamber, and a corridor connection extending into the lower portion of the storage chamber and laterally to connect the storage chamber with the stable, said storage chamber having a chute adapted to permit progressive feeding of material into the corridor connection from the top of the column of material in the storage chamber, said feeding and housing structure being made of fire-proof construction whereby any fire hazard in the storage chamber will be ineffective to injure the stable or its contents.

3. In a farm structure including a barn for domestic animals, a communicating connection to the barn whereby feed may be transferred to the barn, and a feed storage container connected to the communicating connection, said feed container consisting of an outer chamber, an inner chamber and ventilating means in one of said chambers, said chambers constituting receptacles for hay and ensilage, and having annular side walls.

4. In a farm structure including a barn for domestic animals, a corridor connected to the barn whereby feed may be transferred to the barn, and a feed storage container connected to the corridor, said feed container consisting of an inner chamber and an outer chamber, said chambers constituting receptacles for hay and ensilage, said hay receptacle having ventilating means adapted to admit air to substantially all portions thereof, and said corridor directly connecting said feed container and barn.

5. In a farm structure including a barn for domestic animals, a substantially closed corridor connected to the barn whereby feed is transferred to the barn, and a feed storage container

consisting of an inner chamber and an outer chamber, said chambers being coaxial and constituting receptacles for hay and ensilage, and one of said chambers having ventilating means adapted to admit air to substantially all portions thereof, said corridor directly connecting said feed container and barn.

6. In a farm structure including a barn, a corridor connected to the barn whereby feed is transferred to the barn, and a feed storage container connected to the corridor, said feed container consisting of an inner chamber and an outer chamber, one of said chambers constituting a receptacle for hay and the other for ensilage, said hay receptacle having ventilating apertures for admitting air to substantially all parts of the hay contained therein, said corridor connecting said barn and feed chamber.

7. In a farm structure including a barn, a corridor connected to the barn whereby feed is transferred to the barn, and a feed storage container connected to the corridor, said feed container consisting of an inner chamber and an outer chamber, said chambers constituting receptacles respectively for ensilage and hay, said hay receptacle having ventilating means for admitting air to substantially all parts of the hay contained therein, said ventilating means constituting slotted walls, said corridor directly connecting said barn and feed chamber.

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BUILDING

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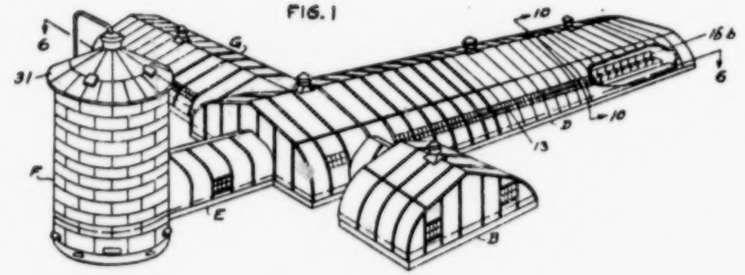
FIG. 1



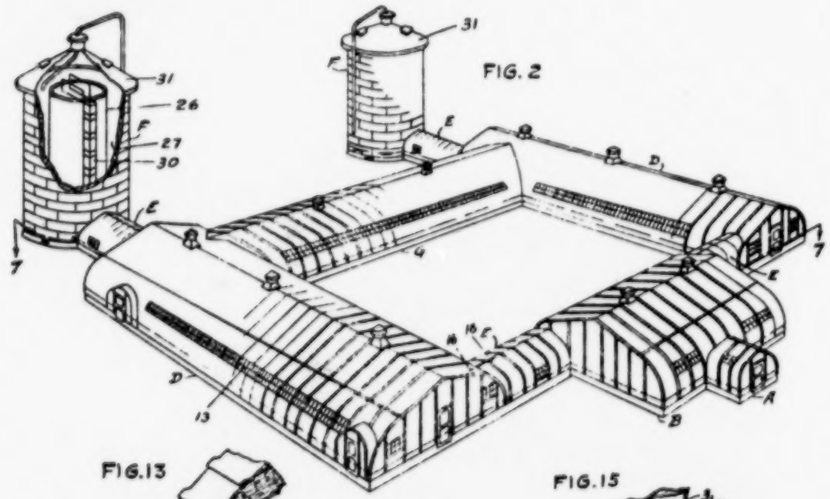


FIG. 2

FIG. 13

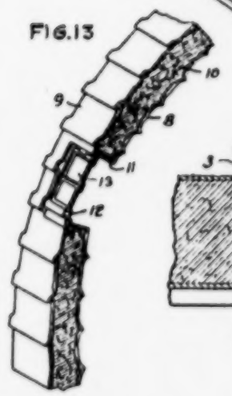


FIG. 14

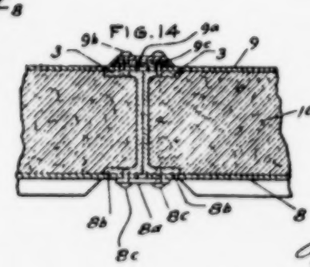
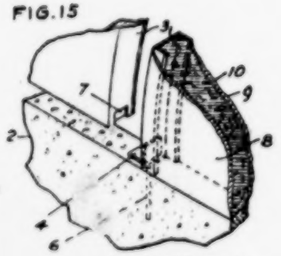


FIG. 15



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BUILDING

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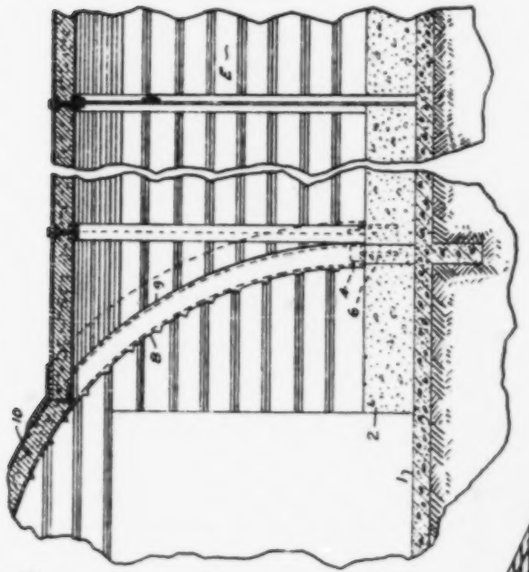

FIG. 16

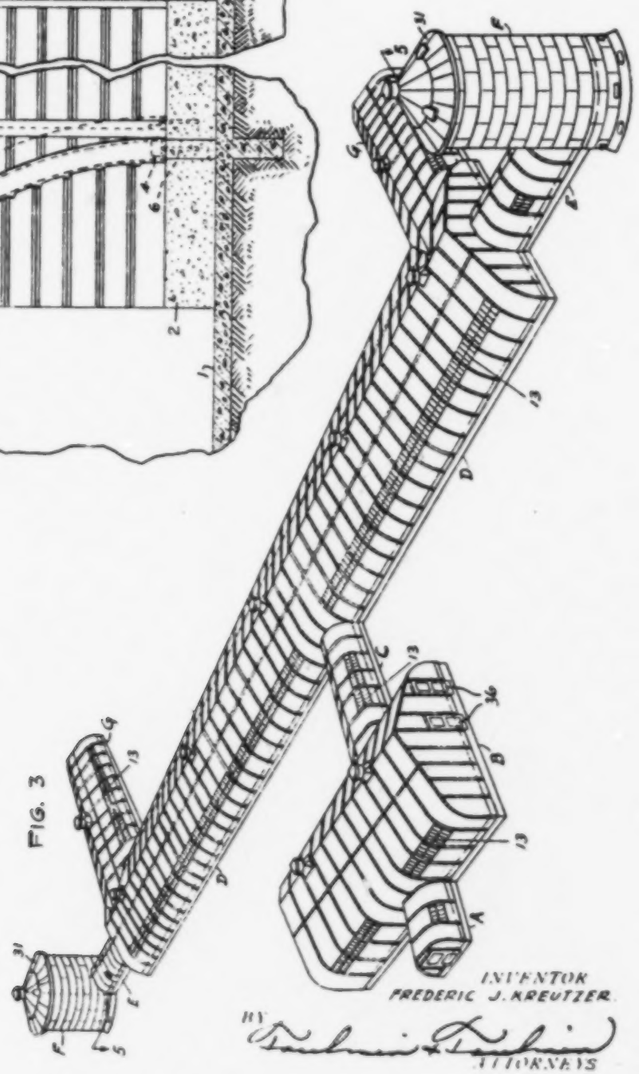

FIG. 3

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FIG. 4

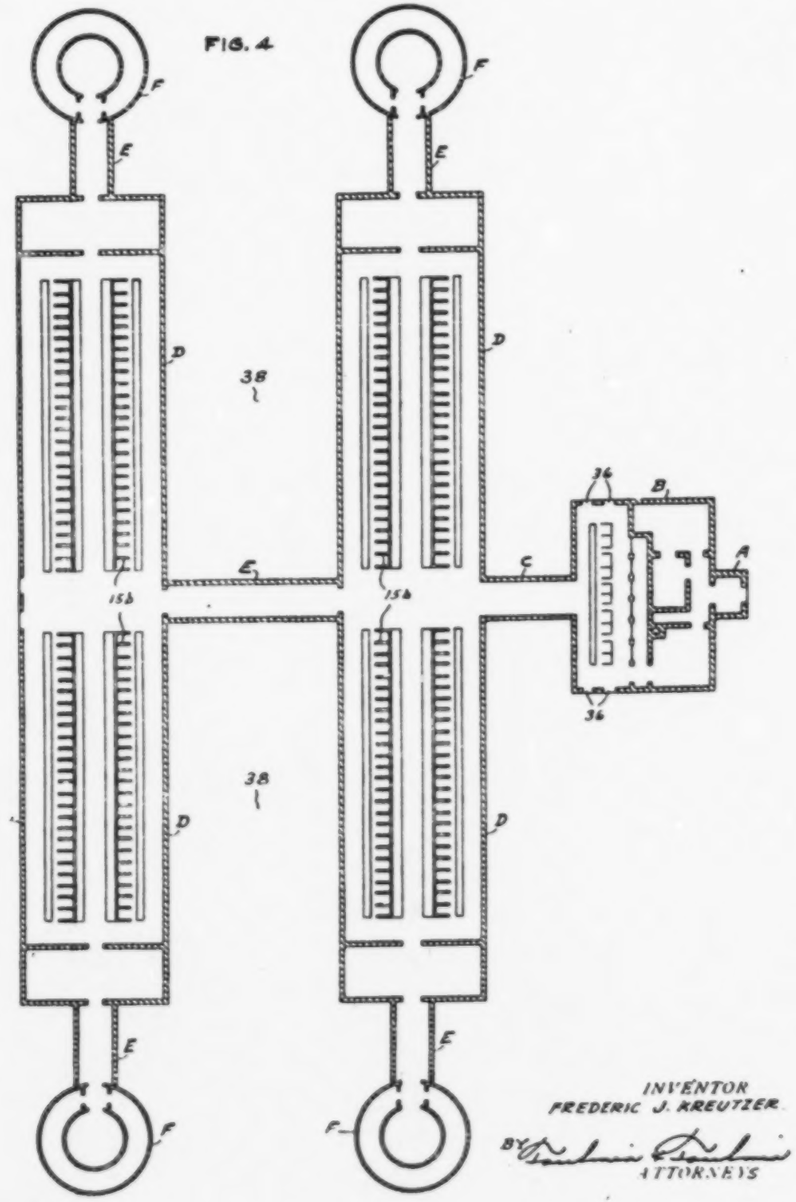

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FIG. 5

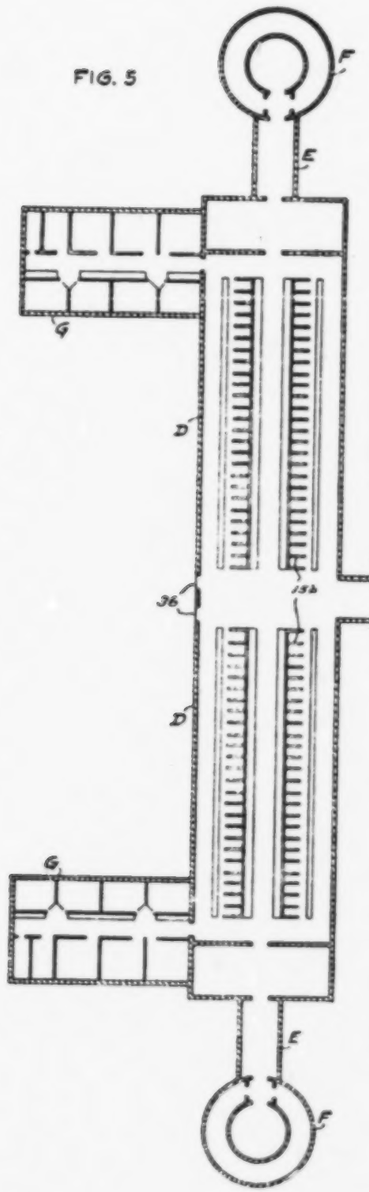

FIG. 6

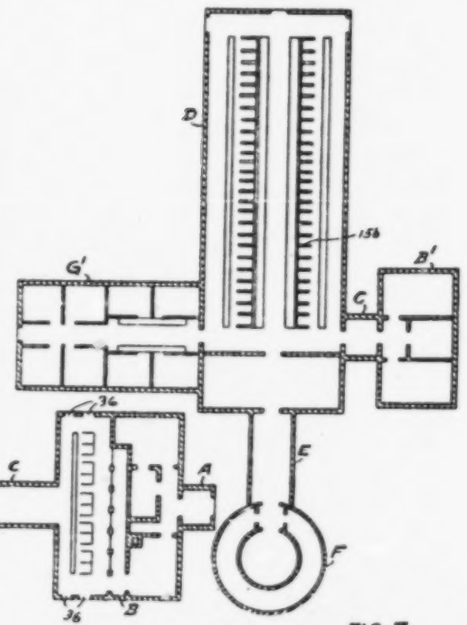

FIG. 7

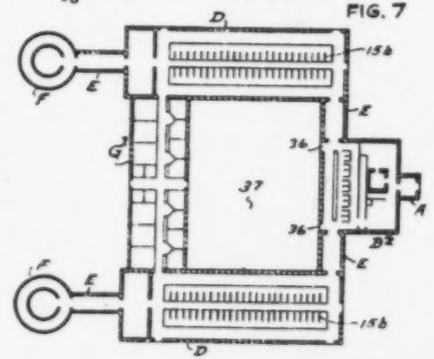

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FIG. 8

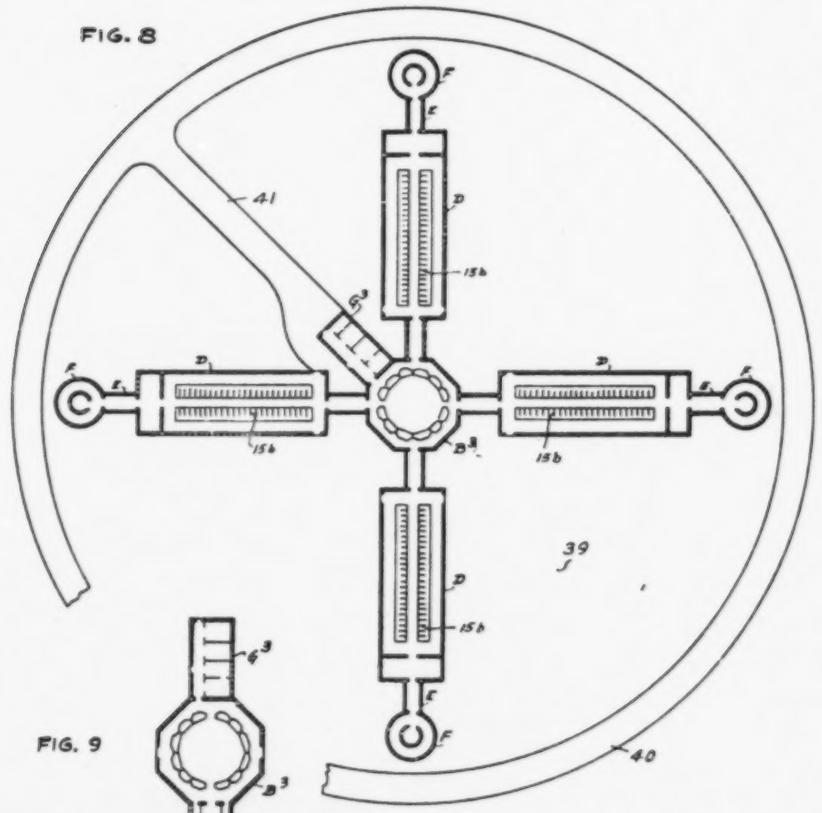
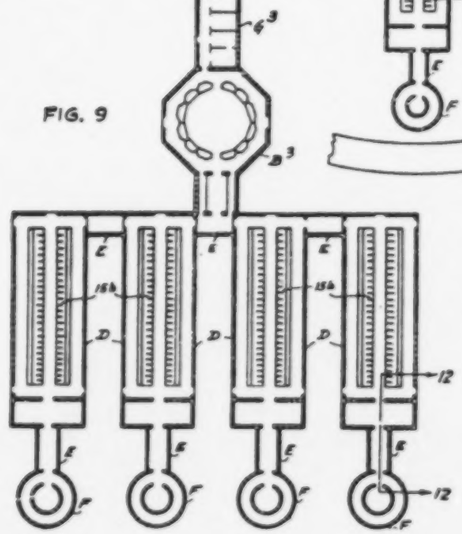


FIG. 9



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Filed Oct. 25, 1932 6 Sheets-Sheet 6

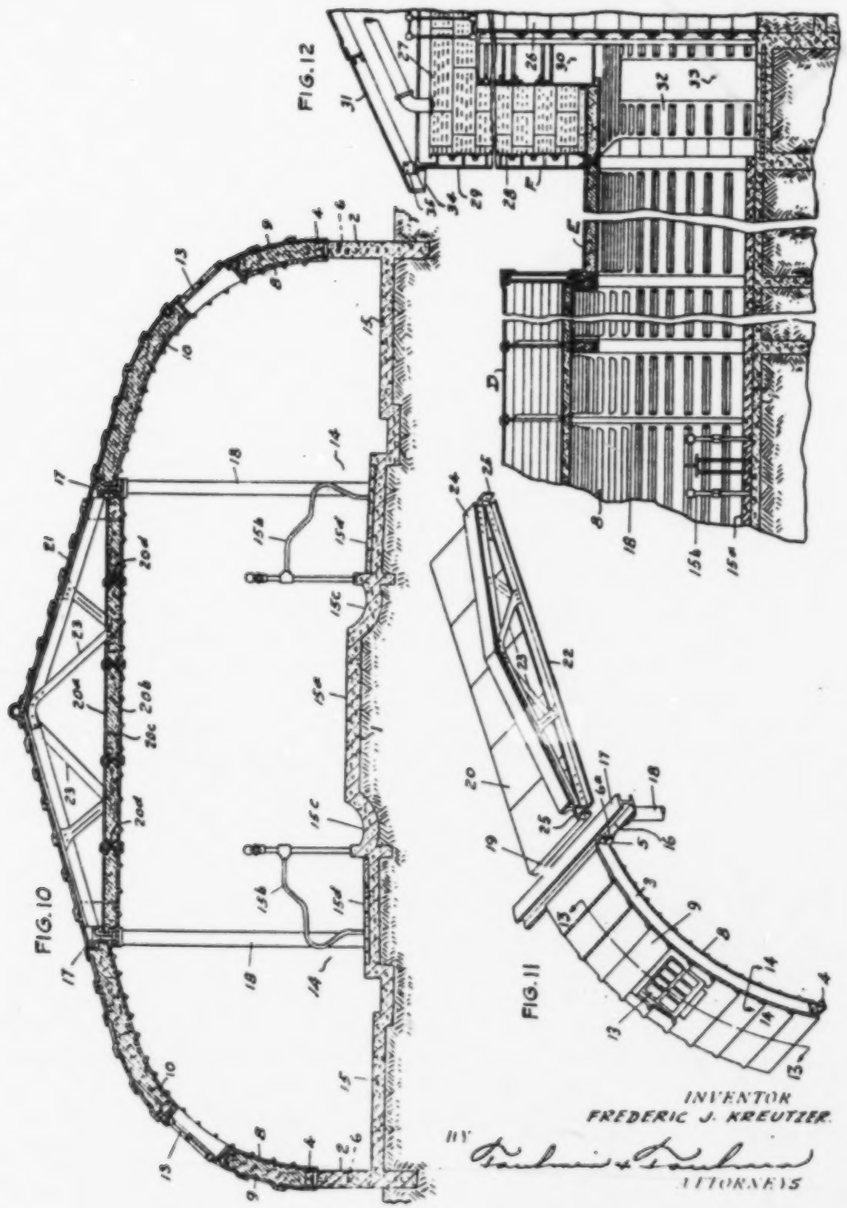

FIG. 12

FIG. 10

FIG. 11

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UNITED STATES PATENT OFFICE

1,981,418

BUILDING

Frederic J. Kreutzer, Elmira, N. Y., assignor to James Manufacturing Company, Fort Atkinson, Wis., a corporation of Wisconsin

Application October 25, 1932, Serial No. 639,490

2 Claims. (Cl. 119—16)

My invention relates to buildings and, in particular, to sectional, standardized, expansible buildings adapted to be erected in units to form enclosures of fireproof character for stock, and enclosures or protecting barriers for stock when exercising or feeding in the open.

It is a further object of my invention to provide a structure comprised of several unitary elements which, by multiplication of such standard unitary elements, can make buildings of different widths, heights and lengths and different combinations of buildings, all in connection with fireproof feed storage chambers.

It is a further object of my invention to provide a system of feeding from remotely located fireproof storage feed chambers enough feed which can be consumed by the stock in the buildings of this invention so that there will be no storage of feed and, therefore, no fire hazard in the buildings in which the animals themselves are located.

In particular, it is an object of my invention to provide the combination of a metal or other fireproof storage chamber for hay and, if desired, for ensilage, and to provide a common communicative passageway between said storage chambers and the stables comprising the buildings of my invention.

It is an object of my invention to provide adequate air circulation throughout the buildings and these storage chambers for the proper ventilation of the hay and of the buildings.

It is my object to provide a building having a fireproof foundation, such as concrete, accurate side walls having ventilation and light windows, and intermediate roof construction comprising a roof plate and a sloping roof, such roof section being supported upon spaced columns which also support the inside ends of the arcuate side walls.

It is an object to provide a dead air space filled with insulation in the side walls and a dead air space in the roof section to thereby insulate against the heat and cold on the outside of the building so they will not affect the interior of the building.

It is an object to provide the side walls of sectional metal so that the individual side wall unit comprises an arcuate strip having exterior independent overlapping metallic strips and an interior metal skin supported and spaced by arcuate metal ribs.

Referring to the drawings:

Figure 1 is an isometric perspective of a T-shaped barn and feed storage chamber combination partially broken away to show the arrangement of the interior of one of the barns;

Figure 2 is a square combination of buildings;

Figure 3 is a U-shaped combination of buildings with a remotely connected lactary or milking station;

Figure 4 is a plan view in section showing the arrangement of the units in parallel with feeding areas in between, with a remotely located milking station;

Figure 5 is a section on the line 5—5 of Figure 3;

Figure 6 is a section on the line 6—6 of Figure 1;

Figure 7 is a section on the line 7—7 of Figure 2;

Figure 8 is a plan view in section of the radial type of building arrangement with a central milking station and remotely located feed chambers with feeding pastures or exercise lots between the buildings;

Figure 9 is a horizontal sectional view of a common milking station and a plurality of longitudinally disposed parallel feeding barns and feed storage chambers; the details of the feed receptacle F being omitted;

Figure 10 is a section on the line 10—10 of Figure 1 showing the construction of the building;

Figure 11 is a perspective of one section of the building showing it in the process of assembly;

Figure 12 is a section on the line 12—12 of Figure 9;

Figure 13 is a section on the line 13—13 of Figure 11;

Figure 14 is a section on the line 14—14 of Figure 11;

Figure 15 is a perspective, partially in section, of two of the side wall sections about to be joined and permanently mounted on the foundation wall at their abutting bottom and side edges;

Figure 16 is an enlarged section through one of the side walls of the buildings and the communicating passageway buildings on the line 16—16 of Figure 2.

It will be understood that this building organization is comprised of certain fundamental essential elements which I have found necessary for the practice of housing and feeding stock, particularly dairy stock, although, of course, the principles apply to other types of animals.

These elements are: a remotely located venti-

lated chamber for the storage of feed, such as chopped hay, which may be continuously ventilated for the removal of gases to control the temperature to prevent spontaneous combustion. Such a chamber is preferably made of metal so as to be proof against lightning. It is also preferably made of segmental sheets of metal in order to facilitate its manufacture at the factory and subsequent erection by bolting or welding on a farm. Associated with this feed container may be a silo of any desired material and both of these containers are arranged to discharge into a common communication passageway or building to the unitary stable which is of sufficient size to accommodate stock that will be fed from these feed containers.

It is the principle of my system of feeding to never store any feed in the stable where it may become ignited either by spontaneous combustion, by a lantern, a carelessly thrown match, and the like.

The third element is the provision of a stock building having no loft for hay storage, which thereby eliminates all danger of fire and confines the building to the one purpose of housing the stock in the best possible manner. Such a building is comprised of unitary sections which can be fabricated at a factory and assembled on the farm with ordinary labor. It is fireproof, being made preferably of metal, with a concrete or similar type floor, has no partitions and can be cross ventilated as well as longitudinally ventilated in order to insure proper ventilation to the stock and adequate cleanliness.

It is so arranged that the windows can direct sunlight on to the stock. It is insulated against heat and cold.

The fourth element which may be employed is a separate building of this character arranged for milking and connected by one of the communication units. In large installations I prefer to have each building for the housing of the stock arranged to accommodate approximately fifty cows but this is a matter of choice. By having a milking station of very much less capacity the stock can be moved from the feeding position to the milking station and back again without interfering with the rest of the stock.

The milk can then be conveyed away from the milking station into adjacent rooms without the possibility of contamination by conducting the milking operation and the treatment of milk in communication with or in the presence of the stock that are awaiting milking or are being fed, and this provides for a marked sanitary advance in the art of milking.

It is a further object of the invention to provide buildings that are low in height and, therefore, form adequate enclosures for exercise lots or feeding pastures between the buildings where the stock are protected from the wind and snow and, at the same time, can secure adequate exercise, and on pleasant days, ample sunlight, so that the stock in cold weather will not have to stand in the shadow of the buildings. Heretofore, in winter time, the southern exposures being limited in number, it has been necessary to have the stock for a portion or a large part of the day stand in the shadow of the barns in the feed lots and exercise lots.

Referring to the drawings in detail, A designates an entrance building which is preferably composed of the arcuate side wall sections hereinafter described. Such a building of the A type is used for communication purposes. B, B^1, B^2 and B^3 indicates a building used as a milking station, C a communication building, D feeding stables, E communication passageways to the feed storage chambers F.

Referring particularly to the detail construction of the buildings, as shown in Figures 10, 11, 12, 13, 14, 15 and 16, 1 designates the foundation which has side walls 2 on which are mounted the arcuate side wall sections shown in Figure 11. These side wall sections comprise a pair of arcuate rib plates 3 having bottom end flanges 4 and top end flanges 5. These rib plates 3 are preferably U-shaped in section as shown in Figure 15. The lower attaching plates 4 may be bolted by bolts 6 embedded in the side walls 2. The adjacent side wall sections may be recessed at 7 for the reception of the bottom plate 4.

These side plates 3 support interiorly a corrugated metal sheet 8 and overlapping exterior transversely disposed metal sheets 9. Between these sheets is placed any insulation material designated 10 to insulate from the heat and cold. The joint between adjacent sections is covered by an exterior strip 9a bolted by bolts 9b to the flanges of the U-shaped members 3. Beneath this strip 9a is a waterproof composition 9c. On the interior of this joint is a plate 8a overlapping the sheets 8 and connecting them to the flanges 8b of the U-shaped members 3 by bolts 8c. When desired, a window frame 11 may be placed in the side wall to carry a sash 12 having glass 13.

It will be noted that this window being arranged at an angle to a vertical plane is so disposed as to direct the sunlight on to the animals standing in the general area designated 14. It also provides light for adequate cleaning of the foundation 1 as at 15.

The upper ends of these arcuate side wall sections are attached by the plates 5 to bolts 6a into the recesses 16 of the longitudinally disposed I-beam girders 17 which are supported on spaced vertical posts 18 carried on the foundation 1. The upper ends of the side wall sections, therefore, are nested in the U-shaped recesses 16.

The other of these U-shaped recesses formed by the I-beam 17 receives the abutting end 19 of the ceiling plates 20 which are carried between the truss members which support the ceiling plates 20 and the roof members 21. These truss members are comprised of a horizontally disposed angle iron or I-beam 22 having diagonally disposed truss members 23 interconnecting and supporting I-beam roof members 24. Mounted on these truss members are angular end plates 25 for attachment of this roof unit to the girders 17. The ceiling plates 20 are comprised of sheets 20a and 20b which are spaced to form an air space 20c in which insulation material may be placed. They are connected together by either I-beams or abutting U-shaped members 20d which extend longitudinally of the building between the trusses. The whole combination of the upper and lower plates, the insulation and these beam members 20d combine to form what is known as the ceiling plate.

It will be noted that this central roof section comprising the truss, the roof and the ceiling plates is omitted in the case of buildings, such as A, C and E.

Feed chambers

The feed storage chamber is so arranged that the silo 26 and the ventilated hay storage chamber 27 formed by the foraminous false walls 28 within the exterior wall 29 discharge through a common chute 30. They are housed by a common roof 31. This chute communicates with a horizontally disposed communication passageway 32 leading into one of the communication buildings E.

This passageway 32 also has side doors 33 for entering the hay chamber 27. Thus, the adjacent barn D may be ventilated by the passage of air through the communicating building E, passageway 32, chute 30, out through the passageway 27 to the space beneath the roof 31 which is provided with a suitable ventilator or the air may pass out beneath the eaves 34 as the roof 31 is suspended above the wall 29 by the bracket plates 35, if so desired. The numeral 36 in Figs. 3, 4, and 5 designates doors.

In Figures 2 and 12 may be found a platform diagrammatically illustrated with railings extending above part 26.

It will be seen that, by the use of such buildings, it is possible to vary the width and the height of the buildings, as well as the length.

The height of the building is determined by the height of the foundation side walls 2 and the posts 18. The building may have one or more roof sections, or none at all.

It will be further observed that the load on the roof section is taken on the posts 18 but any lateral thrust is also transmitted through the side wall sections and thence to the foundation walls 2. Any load on the side wall sections is taken on the foundation side walls 2 and against the girders 17 and the intervening roof section. Thus, a very light, strong and insulated building is provided of indefinite extension but which can be manufactured from a few standard parts that can be easily erected by ordinary labor on the farm. When so erected, the building is not only fireproof but is lightning proof due to the mass of metal. There is no possibility of spontaneous combustion in the buildings devoted to the housing of the stock because there is no combustible material stored therein and the disastrous hazard of fire which destroys breeding stock that has taken years to develop is eliminated.

It will be understood that such stock is the product of many years of breeding and no money payment by way of insurance can replace the destruction of such animals. Therefore, it becomes a matter of vital importance to eliminate any chance of destruction by fire or lightning of animals that are irreplaceable. It is also necessary to have adequate sunlight and ventilation. It is likewise essential to remove the milking operation from any possible contamination and to provide buildings that will permit of the ready movement and circulation of the stock into and out of the buildings and to and from the milking station.

It will be observed that the stock can pass along the floor at 15 for this purpose, the feed can be delivered to the stock along the floor at 15a so as not to impede the movement of the stock. Adequate stalls or stanchions are connected at 15b and the feeding trough at 15c. The animal can stand upon the wooden or other floor 15d. The columns 18 can be located between the cows so as not to interfere with other standing room. Consequently, the space within this building is substantially without any obstruction. All the animals can be observed from any point in the building. The carrying of feed along the passageway 15a may be readily effected by hand, by carts, vehicles on rails or by overhead carriers suspended from the trusses. The load of such carriers is taken on the columns 18 without imposing that load upon the side walls.

It is further observed that each one of these sections can be made of such size and weight as to be easily handled in erection. Furthermore, the building is one that can be completely salvaged in the event of it being torn down. Furthermore, it is capable of expansion so that as the herd grows, it is possible for the owner to continue to attach additional standard sections to take care of his needs as they develop. The foundation may be extended or restricted to suit the superstructure. The present invention relates to the superstructure and not to the foundation, which may be varied in extent to correspond to the superstructure.

Building arrangement

One of the primary purposes of this invention is to provide such a standard system that various forms of unitary buildings may be employed.

For instance, Figures 1 and 6, which represent a typical arrangement of a fifty-cow barn, show an entrance building or milking station, as desired, a building for box stalls as at G or G', a stable as at D, a feed storage chamber F and communication buildings E, all of metal and of similar interchangeable sections. The building G is adapted for the use of cows with calves, and the like.

In Figures 2 and 7, the stables D are arranged in spaced parallel relation with intercommunicating buildings E connecting into a milking building B^2. The rear ends of these stables are interconnected by a box stall stable G^2 while the ends of the buildings D are provided with communication buildings E connected to the feed storage chambers F which contain sufficient hay and ensilage for supplying the cows in each of the buildings D, to which they are connected.

In Figures 1, 2 and 12, there are disclosed pipes which are adapted to convey chopped hay under pressure to the interior of the hay containers.

It will be noted that the cows in one stable can reach the milking station building without going through the other stable D.

By this arrangement the cows can be led through the doors 36 into the exercise lot 37 where they may have the sunlight and the air and be protected from the winds. The buildings form the enclosure, and, therefore, no fences are necessary.

In the forms shown in Figures 3 and 5 it is possible to feed from either of the feed storage chambers F to both stables D but still possible to move the cows to and from the milking station B without going through the other stable and disturbing the feeding or the handling of the cows in that stable. By projecting the unitary buildings G to form a U-shaped enclosure with the stables D a partially protected enclosure for the stock when exercising is provided.

In the form shown in Figure 4, more complete enclosures are provided by arranging another unit of feed chambers and stables connected by

a communication building E in parallel to form exercise lots therebetween as at 38.

In Figure 8 there is provided an arrangement by which the buildings are radially disposed in units connected into a central milking station B³. Between these radially disposed buildings are feed lots or exercising pastures 39 while around the entire series of buildings is an annular roadway 40 which joins a roadway 41.

Figure 9 shows a similar milking station with a plurality of stables D arranged in parallelism with their associated supply stations for feed in the chambers F.

It will be understood that I desire to comprehend within my invention such modifications as may be necessary to adapt it to varying conditions and uses.

I hereby make a cross reference to my co-pending application Ser. 637,027, filed Oct. 10, 1932, for improvements in Apparatus for storing and dispensing feed. While some of the figures of the drawings in that application and some of the figures of the drawings in this present application Ser. 639,490, are the same, other figures in the drawings of each of these two applications do show constructions not illustrated in the other; and nothing claimed in this application Ser. No. 639,490 is claimed in said co-pending application Ser. 637,027.

I make further cross reference to my co-pending application Ser. 669,898, filed May 8, 1933, which application is a divisional application of co-pending application Serial No. 637,027, above referred to. Application Serial No. 669,898 describes and claims a food container such as is illustrated in Figure 4 and others of the drawings of this application.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In combination in a building system, a plurality of stock housing barns arranged in spaced relationship, a milking building arranged therebetween with interconnecting communicating buildings, and remotely located feed storage chambers connected to the barns, each of said barns having its own feed storage chamber thus remotely connected whereby the stock in each barn can be fed from each feed storage chamber and moved to and from the milking building without disturbing the stock in the other barn, said milking building comprising an octagonal building having annularly disposed milking stanchions arranged therein.

2. In a system of buildings, a plurality of metal buildings including at least one barn, certain of said buildings being formed of similar interchangeable metallic sections, and having foundations, and a metallic food containing building composed of sections dissimilar to the sections composing the other buildings, said barn being composed of metallic side wall and roof sections, and a metallic milking building, said metallic food containing building having a spaced foraminous interior false wall for ventilating the contents thereof, and metallic sectional buildings composed only of said side wall sections and forming a communicating means between two or more of said sectional buildings.

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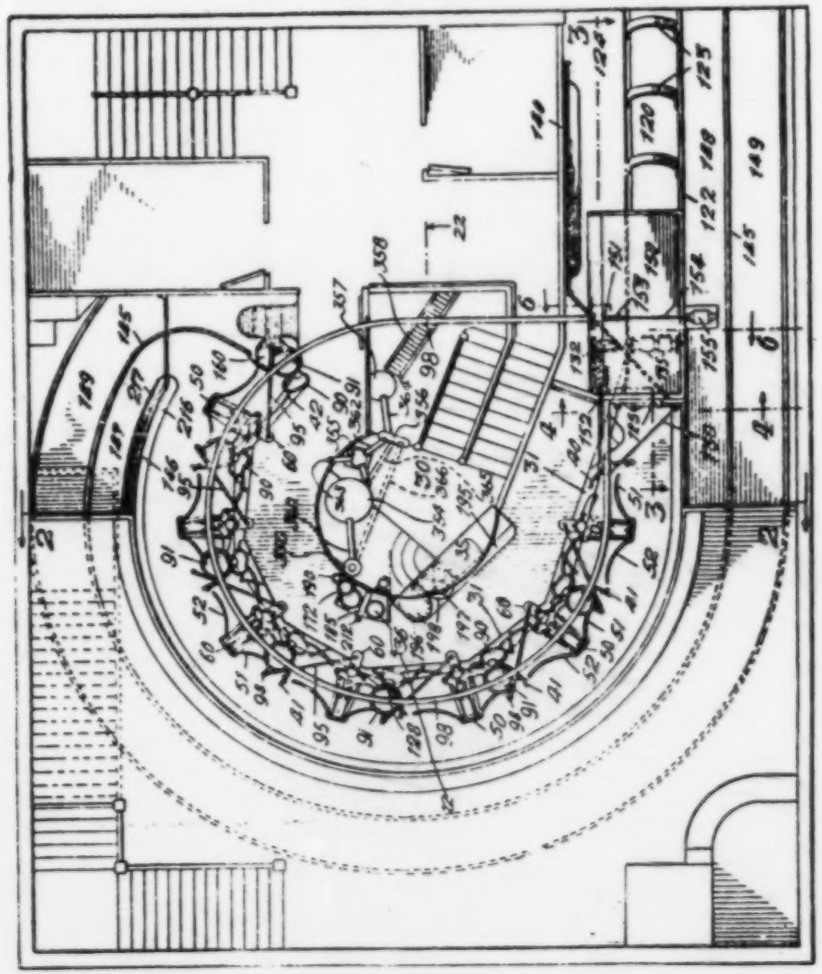

Fig. 1.

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DAIRY PLANT

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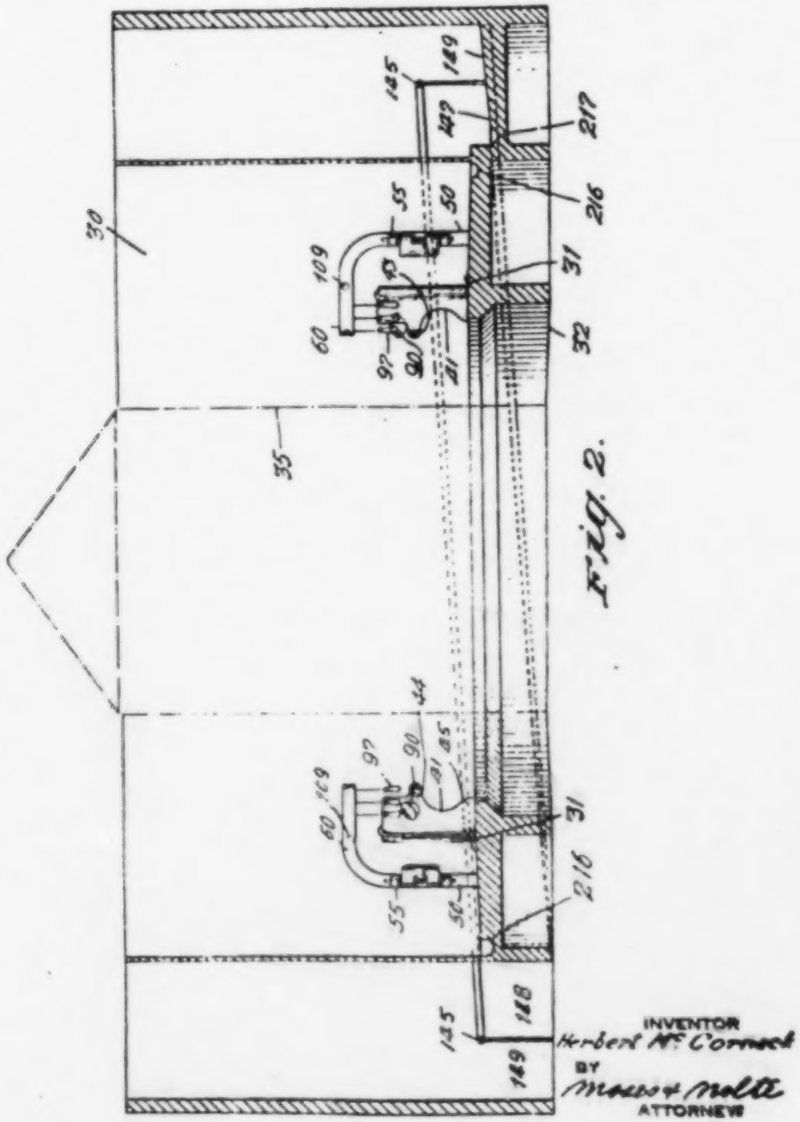

Fig. 2.

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DAIRY PLANT

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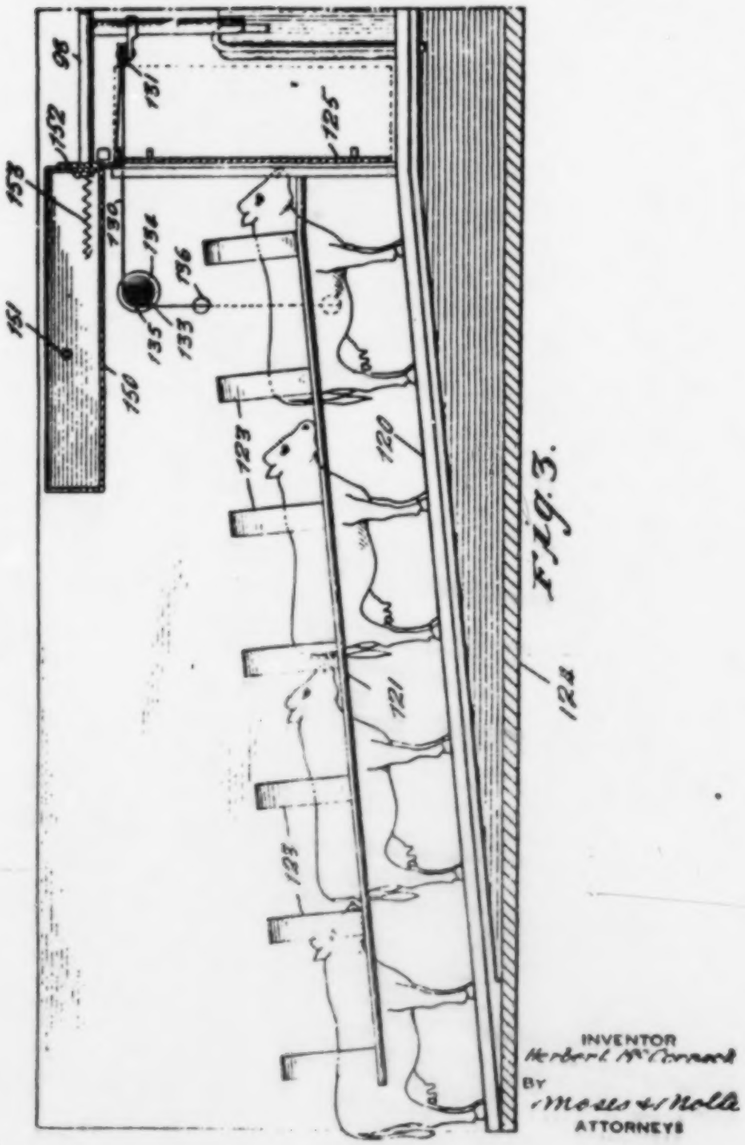

Fig. 3.

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DAIRY PLANT

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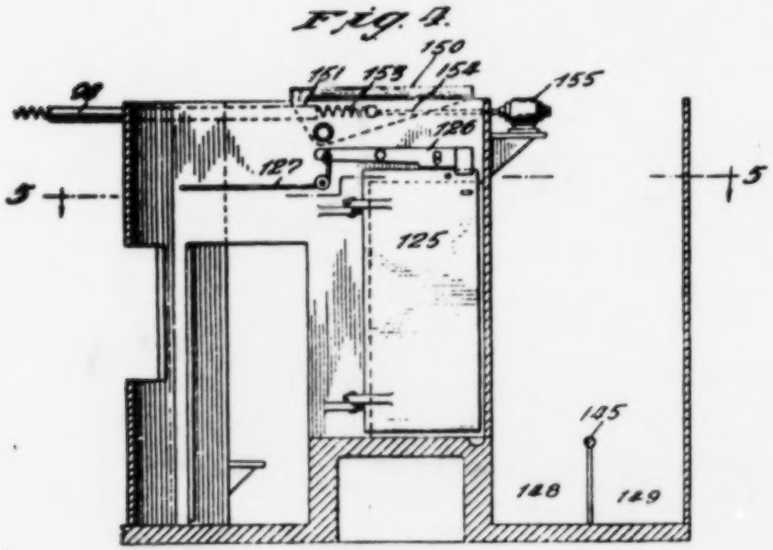
Fig. 4.



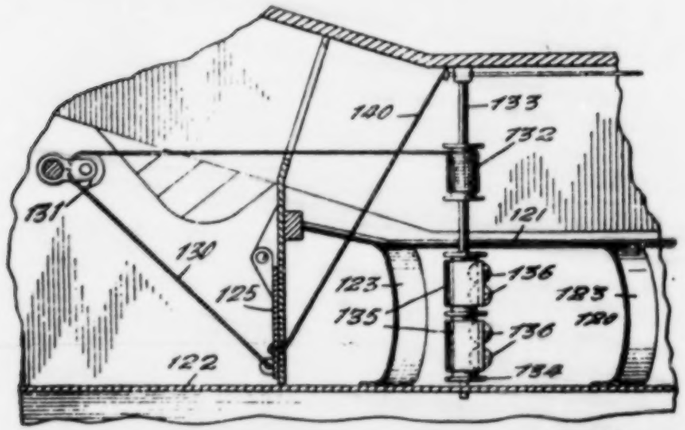


Fig. 5.

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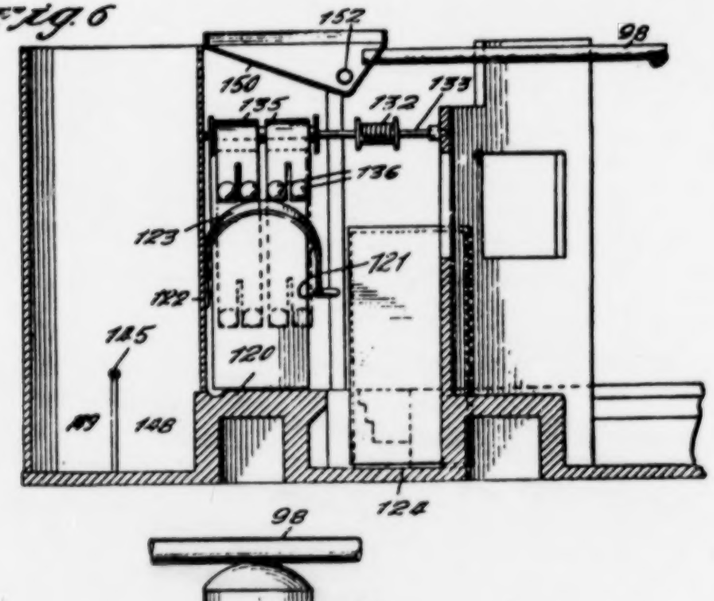
Fig. 6



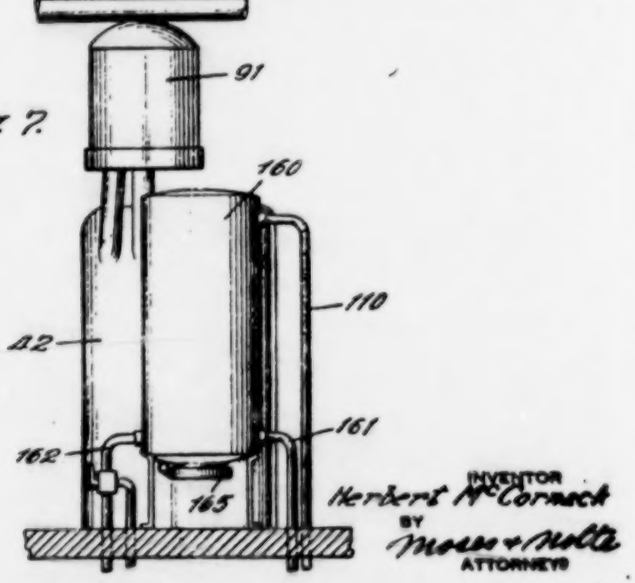


Fig. 7.

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DAIRY PLANT

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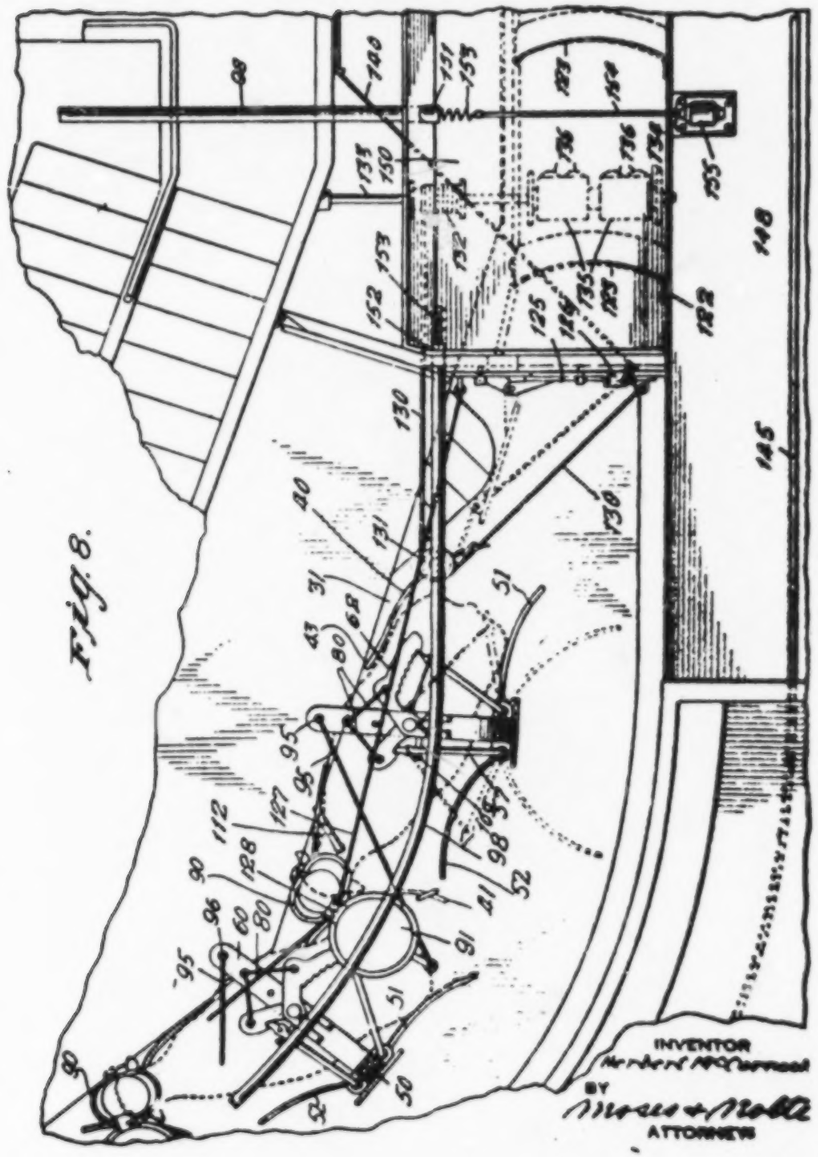

Fig. 8.

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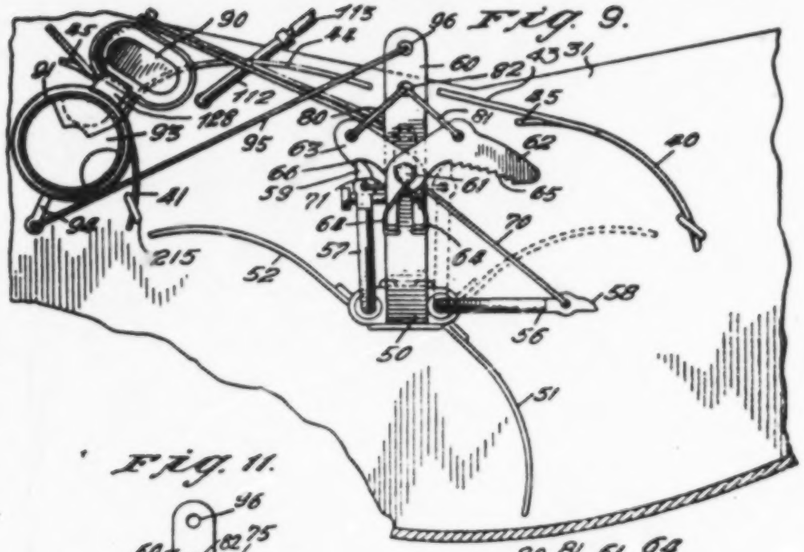

Fig. 9.

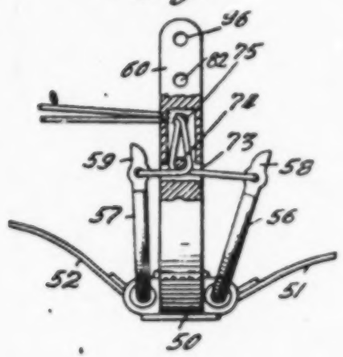

Fig. 11.

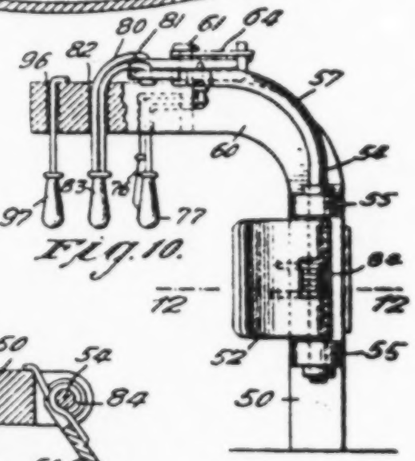

Fig. 10.

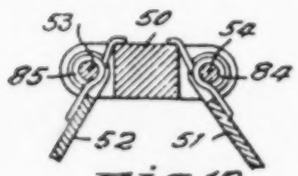

Fig. 12.

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DAIRY PLANT

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Fig. 13.

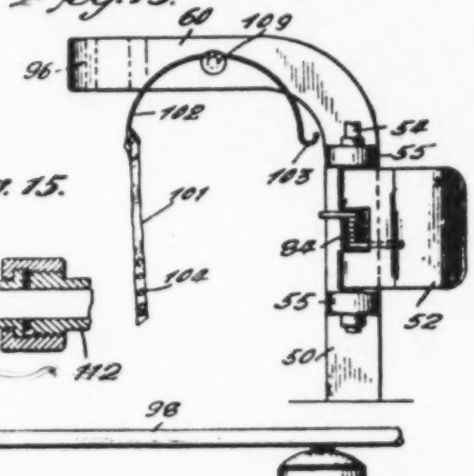

Fig. 15.

Fig. 14.

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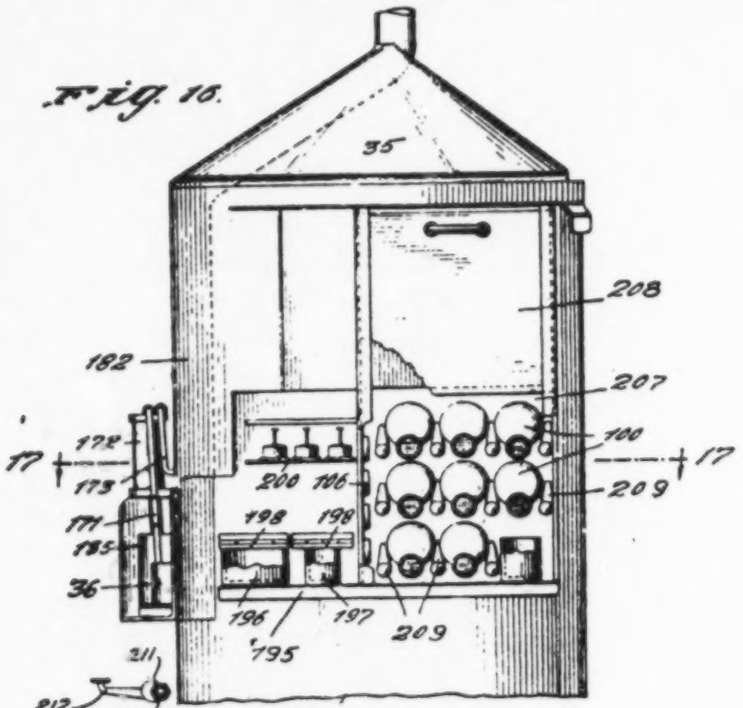
Fig. 16.



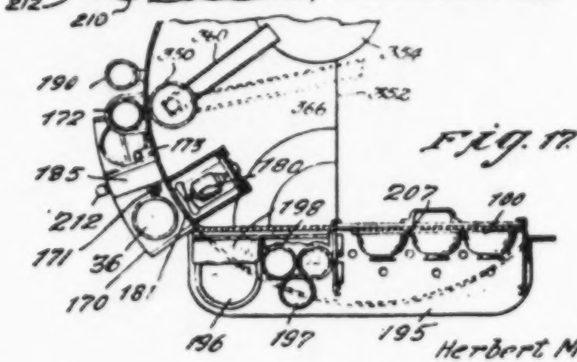


Fig. 17.

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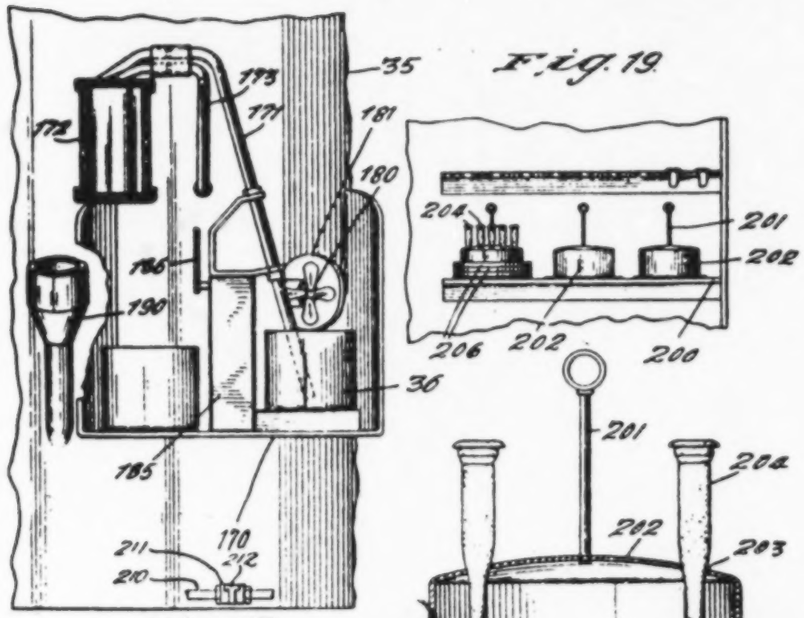


Fig. 18.

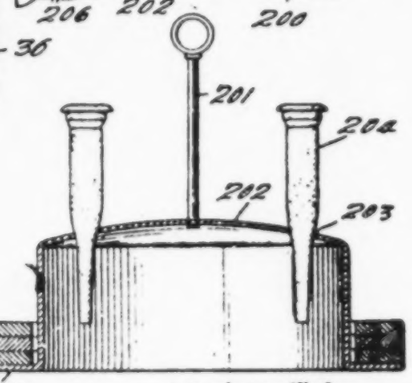


Fig. 20.

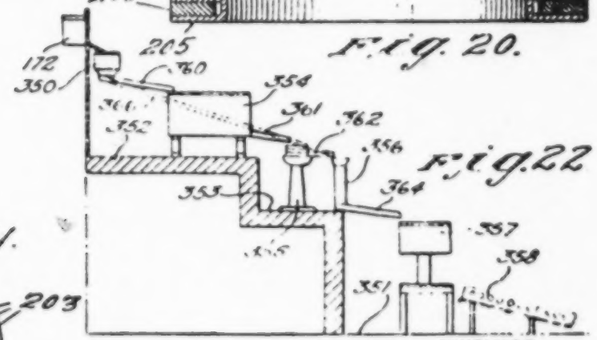
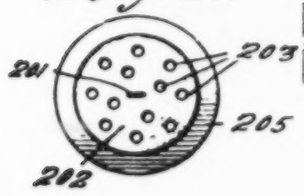


Fig. 22

Fig. 19.

Fig. 21.



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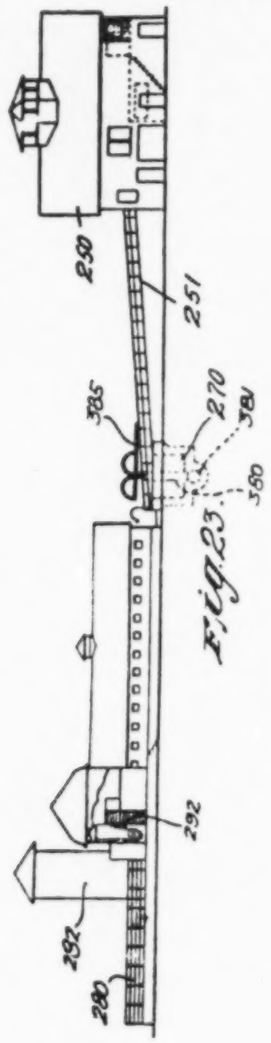

Fig. 23.

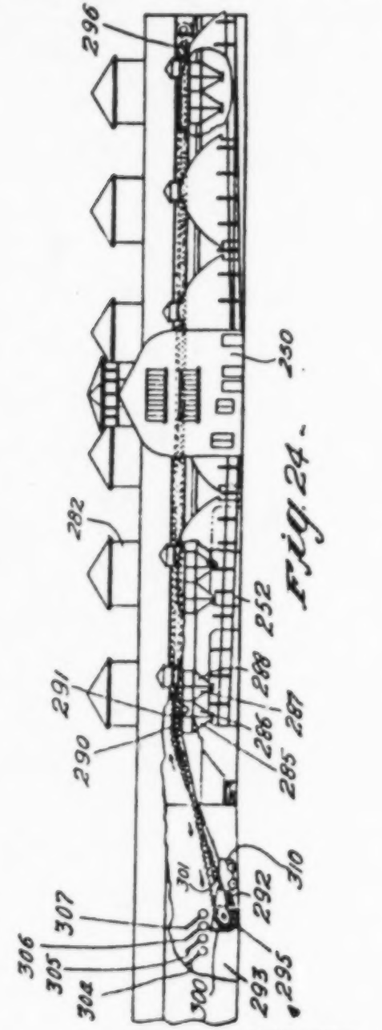

Fig. 24.

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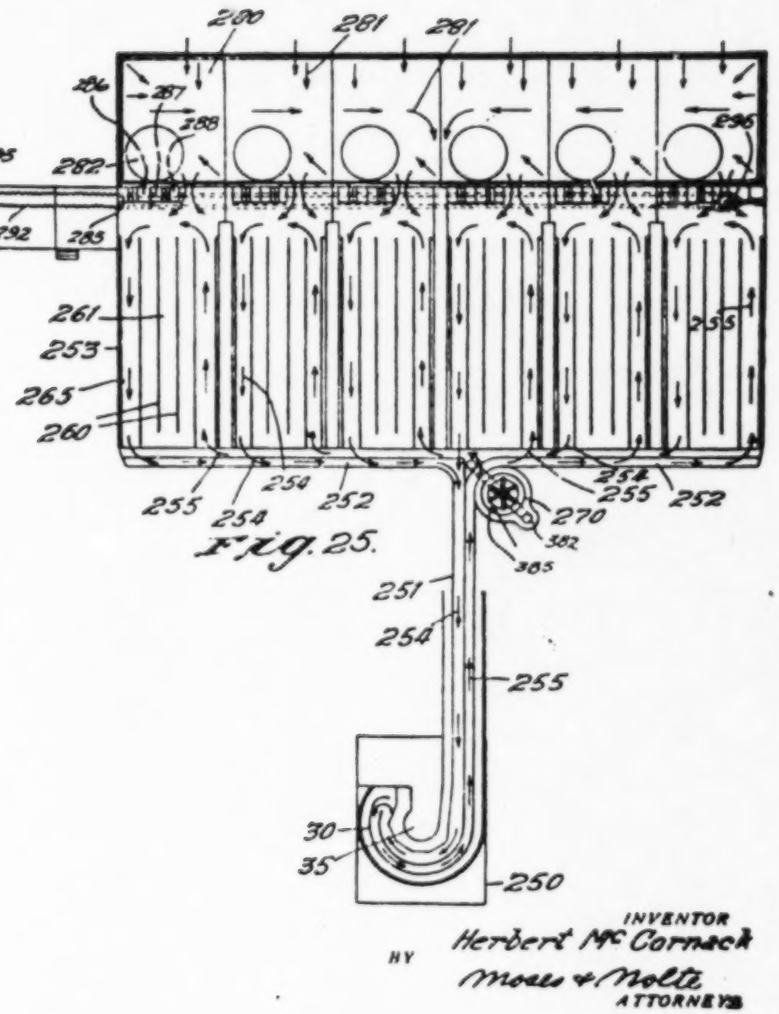

Fig. 25.

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DAIRY PLANT

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My invention relates to improvements in facilities for sheltering, feeding, milking cows, caring for the milk and conserving the fertilizer values of the manure.

An important feature of the invention comprises improvements in plants for milking cows by machine, particularly that type of milking plant in which the cows enter the milking stalls from the side opposite to the milking machine operator. This part of the invention is designed especially as a complement to the milking machine disclosed in my Patents No. 1,859,213 and No. 1,859,214, although it may be employed with other types of milking machines.

The comprehensive objects of my invention are to save labor, to keep stable and human impurities out of the milk, to increase milk production, to promote the health of the cow's udder by facilitating the application of the calf-like agitation of the milking machine disclosed in my patents aforesaid, to provide improved arrangements for sheltering and feeding the cows, for handling the milk and for disposing of the manure and utilizing the valuable constituents thereof.

I attain these objects by the following novel features:

A basic novel feature of this dairy plant is the arrangement of milking stalls by which the cows' heads overlap the hips of the cows in front of them on the side next to the milking machine operator. By this arrangement the distance which the operator has to travel from cow to cow and from the cows to the point where the milk is emptied is made considerably shorter than in prior practice. An important provision in this overlapping arrangement of stalls is the interposition of sanitary shields or guards between the hips of the cows and the overlapping heads of the cows at their rears. Another important feature in this connection is the provision of feed boxes mounted upon said shields which serve not merely as feed boxes, but, in this overlapping of stalls, provide protection for the operator from the heads of the cows at the rear when he is milking.

Another feature which contributes essentially to the overlapping arrangement of milking stalls is the milking bench, which elevates the cow's udder to a height about four feet above the operator's floor, where the operator standing erect can reach it and attach the milking machine and which also lifts the feed box and the cow's head out of the way of the operator while he is milking the next cow.

Another feature of this plant is the preferred circular arrangement of milking stalls and provision within the circle of stalls for emptying and weighing the milk and transferring it to the milk room, thus reducing the travel of the milking machine operator to the minimum.

Another feature of improvement in this dairy plant is the provision of means for controlling the entrance of the cows into the milking room. This consists in its preferred form of an entrance door and a curtain or other suitable form of barrier across the approach to the entrance door and a pull cord, electric switch or other means in the milking room by which the milking machine operator simultaneously opens the entrance door and drops the curtain, and reversely, means being also provided on the approach side of the entrance door by which the door is closed and the curtain is raised for the next cow. In this arrangement, as the entrance door is opened to let in the cow which is about to enter the milking room, the two-part curtain, which is weighted, falls about the middle of the cow's back and serves, not only to start her movement, but also to detain the cow which follows behind her until the entrance door is again closed and the curtain is again raised by the inspector. This scheme of control serves to keep a cow at the entrance door promptly on call by the operator in the milking room.

Another feature of my improved milking plant consists of an entrance gate to the milking stall, preferably of spring sheet material and light in weight, so arranged that when it is drawn by the operator and pressed against the cow's hip it causes her to step over toward the shield and assume a position convenient to be milked.

Another provision in this connection is a ratchet or other means for locking the gate in any desired position which thus adapts this device to cows of different size.

Still another provision is an extension of the shield or other part of the stall in front of the cow's rear foot which is next to the operator and which not only protects the operator from the droppings of the cow but causes the cow to place this foot in a rearward position to facilitate the application of the machine.

Another feature of my improved dairy plant is the provision for dispensing with the unsanitary and expensive stall cocks of present practice and for greatly facilitating the attachment of the milker unit to the cow. This is effected by an automatic control of air inflow to the vacuum line which is accomplished by so shaping and so disposing the connection of the vacuum

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line with reference to the flexible stall tube which joins it with the milker bucket, that when the stall tube is detached from the milker bucket and is allowed to hang freely from the vacuum pipe its weight serves to close the air inlet to the vacuum line and, reversely, when the stall tube is attached to the milk bucket, the inlet being thus relieved sufficiently from its weight, opens and the air flows into the vacuum line. This automatic control of the air inflow to the vacuum line is made possible by the elevated milking bench and by such location of the vacuum line connection that when the stall tube is suspended from the vacuum connection it swings clear of the operator's floor.

Another feature of improvement is the provision for so hanging up the surcingle of the milker unit as it is taken from the outgoing cow that the incoming cow, when she enters the milking stall walks directly under the surcingle located in convenient position to be attached.

Another feature is the provision of water pipes so arranged that they discharge water against and flush the surfaces of the sanitary shields and also flush the milking benches and the gutters. Each individual shield may be flushed separately but preferably the shields are flushed simultaneously by means of a common valve. It is also provided that the cow's lanes and their manure gutters are sprayed and flushed from lateral pipes in the same way.

Another feature is the arrangement of the manure gutters of the dairy plant so that they are located beyond the cows on the side opposite to the operator. The advantage of this arrangement, over prior practice, is that the milking bench and the cow lanes are more easily flushed and the cows do not have to cross the gutter in passing through the plant.

Another feature is the provision for keeping stable impurities and insects away from the milk when it is poured and transferred to the milk receiving room. This is accomplished by means of a fan which discharges pure air and maintains a clean atmosphere where the milk bucket is opened and the milk is poured and weighed and transferred to the milk receiving room.

Another feature is that this provision which protects the milk while it is being poured, weighed and transferred to the milk receiving room also efficiently ventilates the milk receiving room.

A general and comprehensive feature of improvement in this dairy plant is the convenient and concentrated location of all of the activities of the milking machine operator which makes it possible for one operator to use efficiently seven milker units simultaneously. By this concentration and convenience of the milking room facilities the work of the operator is so greatly abbreviated that he can give close attention to the functioning of the several milker units and can apply to each cow for a longer period of time the calf-like treatment of my patented milker with great advantage to milk production and to the health of the cow's udder. This great economy of effort and improvement in efficiency is effected by the combination of plant facilities, the arrangement of the milking stalls, the facilities for handling the cows, the means for flushing the plant and the means for emptying and weighing and making record of the weight of the milk from each cow and transferring it to the milk room, also the convenient grouping within the circular arrangement of milking stalls, of the instrumentalities which control the activities of the plant, a funnel for disposing of the off-standard milk, a partitioned vat for sterilizing and rinsing the teat cups, a vat for washing all milking room utensils, crocks for sterilizing all rubber parts of the milking room equipment and a cabinet for sterilizing and racking the milk room utensils.

Another feature of improvement is accomplished by providing grades of approach which bring the cows, when in their stalls, to an elevation from which the milk is carried by gravitation through the various stages of treatment in the milk room, thus dispensing with pumps or human effort to accomplish this work.

Another important feature of my dairy plant is the provision of improved means for group feeding cows. In the milking room of this plant reservoirs are provided located above the feed boxes in each of the stalls which are automatically kept full of feed by means of a conveyer, preferably a flexible screw. This feed conveyor returns the overflow or excess supply of feed to the original source of supply. Means are also provided by which a given amount of feed can be transferred by the operator as needed from said reservoirs to the feed-boxes in their respective stalls. In the shelter stables there is also provided a distributing system for distributing ground feed, chopped feed, chopped bedding, etc. to the various stables. In connection with this distributing system is a storage room for the necessary feed and bedding supplies and, in the storage room, is provided a receiving hopper to which the different kinds of feed and bedding are conveyed by a truck and into which they are shoveled for distribution to the respective hoppers provided for their storage. At the rear end of each stable is a row of storage hoppers, a hopper for each kind of feed or bedding to be used, into which their respective kinds of feed or bedding are received from the conveyor at their upper ends and discharged from their lower ends into a truck from which they are distributed to the cows.

Another feature of improvement in dairy plants is the means for conserving and applying the fertilizer values of the manure. By a system of flushing the shelter stables, the milking room and the cow lanes both the solid and liquid values of the manure are carried into a catch basin and the considerable quantity of water thus brought into the catch basin is utilized to leach out the soluble values from the manure into a sump. From this sump the dissolved values of the manure are drawn, by a suction pump into a liquid manure spreader and applied to the soil in liquid form.

In the accompanying drawings, I have shown for purposes of illustration one preferred embodiment of my invention.

Figure 1 is a plan view of one form of milking room embodied in my invention;

Figure 2 is a vertical sectional view taken on line 2—2 of Figure 1, the milk receiving room being indicated diagrammatically in broken lines;

Figure 3 is a vertical sectional view taken on the line 3—3 of Figure 1, showing the inclined runway by which the cows approach the milking room;

Figure 4 is a vertical section on line 4—4 of Figure 1, looking in the direction of the arrows;

Figure 5 is a sectional plan view on line 5—5 of Figure 4;

Figure 6 is a vertical sectional view on line

6—6 of Figure 1, looking in the direction of the arrows;

Figure 7 is a detail view in elevation, showing the self-draining vacuum tank for the milking system and one of the feed measuring receptacles;

Figure 8 is a plan view on an enlarged scale showing one of the milking stalls and parts of another stall and also showing the entrance door.

Figure 9 is a plan view showing details of parts of one of the milking stalls on a still further enlarged scale;

Figure 10 is a view in elevation, parts being shown in vertical section, of one of the stall uprights and parts carried thereby;

Figure 11 is a plan view of the parts shown in Figure 10, partly in horizontal section;

Figure 12 is a horizontal sectional view on line 12—12 of Figure 10, the ends of the flexible wings being broken away;

Figure 13 is a view in elevation of one of the milking stall uprights showing the surcingle hung thereon;

Figure 14 is a view in elevation of one of the milk stalls as seen from the side where the operator stands and illustrating a cow therein;

Figure 15 is a detail vertical sectional view showing the automatic cut-off connection for the stall tube;

Figure 16 is a view in elevation showing the outside of the milk receiving room and showing the arrangement for holding the milking units not in use and also showing the receptacle for receiving the milk from the buckets;

Figure 17 is a partial horizontal section on line 17—17 of Figure 16;

Figure 18 is a view in side elevation, parts being shown in section, of the means for receiving the milk from the buckets and conveying it to the interior of the milk receiving room;

Figure 19 is a view in side elevation showing the holders where are kept the cup inflations and rubber sealing rings when not in use, a bracket for holding the metal parts of the cups being shown in section;

Figure 20 is a view in vertical section of one of the holders for the rubber parts;

Figure 21 is a plan view of the same with the rubber parts removed;

Figure 22 is a diagrammatic view in vertical section taken approximately on line 22—22 of Figure 1 showing the arrangement of the various milk handling instrumentalities by which the gravity flow of the milk is obtained throughout the milk receiving room.

Figure 23 is a diagrammatic side elevation of a complete dairy plant lay-out including the stables and milking house;

Figure 24 is a front elevation of the same, parts of the stables being shown in vertical section; and

Figure 25 is a diagrammatic, sectional, plan view of the lay-out shown in Figures 23 and 24.

Referring to the drawings in detail, in the particular embodiment of the invention illustrated the milking is done in a milking room 30 around which are located in circular arrangement a series of milking stalls for the cows, seven of such stalls being illustrated. These stalls are arranged on a milking bench 31 which is raised sufficiently above the operator's floor 32 of the milking room (Figure 2) as to bring the cow to a convenient height so that the operator may most readily inspect the cows' udders and teats and apply the milking units thereto. In the center of the milking room is a milk receiving chamber or room 35 and means are provided on the outer wall of this chamber for receiving the milk from the buckets, as indicated at 36 (Figures 1, 16, 17 and 18). The stalls are so arranged that the head of each cow overlaps the hind quarters of the cow ahead of her on the side towards the operator. In this way the cows stand in a position most convenient for the attachment of the milking units and are also brought as close together as possible so that the operator may reach all of the cows with the least amount of walking. Owing to this circular overlapping relation of the cows, a great economy of steps is secured and a single operator may readily take care of all the cows in a milking room of the size shown, attaching and detaching the milking units and pouring the milk from the buckets into the receiver 36, in which the milk from each cow is weighed and from which it is automatically passed to the interior of the milking chamber.

The stalls are defined by a series of shields 40, 41 and 42, all of the intermediate shields 41 being alike and serving as the rear shield for the cow on one side and the head shield for the cow on the other side. The shield 40 constitutes the rear shield for the cow nearest the entrance door and the shield 42 constitutes a head shield for the cow nearest the exit. Arms 43 and 44 are provided on the shields on the side of the cow toward the operator and the lower part of each shield is provided with a foot guard 45 which restrains the right hind foot of the cow, protects the operator from the same and also from the cow's droppings. The cow in stepping into the stall is caused by the operator to place her right hind foot in a rearward position behind the guard. The guard restrains movement of the foot, keeping the right leg out of the way and exposing the udder for ready attachment of the milking unit. Mounted about midway of each of the stalls on the side of the cow away from the operator is an upright 50 which has hinged thereto a pair of gates 51 and 52 which are preferably made of resilient material such as sheet metal. These gates may be actuated by means to be described and may be locked in closed position so as to retain the cow in the stall during milking. When the cow is to be introduced into a stall the gate 52 is closed and the gate 51 is opened, in which position it extends across the passage-way for the cow so that when a cow coming up such passage-way reaches the gate 51 she is stopped and deflected into the stall. The gate 51 is then closed and in closing it will press yieldingly against the cow's rear and gently push her into her proper place in the milking stall. After the cow is milked, the gate 52 is opened and the cow may thereupon pass out of the stall and along the passage-way to the exit.

The means for operating the gates 51 and 52 as shown in the drawings comprise rods 53 and 54 (see Figure 12) upon which the gates are fixed, the rods being journalled in bearing brackets 56 mounted on the uprights 50. The upper ends of the rods 53 are curved as shown at 56 and 57 in Figure 10 and terminate in pointed ends or teeth 58 and 59. Each of the uprights 50 carries a laterally projecting arm 60, on which are pivoted by means of a pivot 61 a pair of latch members 62, 63, which are yieldingly urged into latching position by springs 64. The latch member 62 is provided with a plurality of ratchet teeth 65 which are adapted to be engaged by the point 58 on the

curved arm 66 of the rod 64 carrying the entrance gate 54 by which means the gate may be locked in adjusted position depending upon the size of the cow. The latch 83 is provided with a single tooth 90 for engagement with the point 66 on the arm connected with the exit gate 53. Ordinarily, a single tooth 90 is sufficient for this gate, although a plurality of ratchet teeth may be provided for adjustment if found necessary. For closing the gates closing cords 70 and 71 are provided connected to the arms 66 and 67 and passing through a transverse hole 73 in horizontal arm 68 (Figure 11) around a guide pin 74 and depending through a hole 75 in the bottom of the arm 66. The ends of the cords are provided with grips 76 and 77 by which the milking machine operator may close the gates. The latches are provided with latch cords 80 and 81 which pass through a hole 82 in the arm 68 and are connected to a single grip 83 by which both latches may be simultaneously released when the gates are to be opened. The gates are provided with coiled springs 84, 85 which normally urge the gates into open position. Preferably a feed box 86 is mounted on the outside of each shield in position to receive the nose of the cow when in proper milking position in the stall. By placing a small amount of food in the feed box the cow is naturally attracted into proper milking position and is also quieted during the milking. The feed box also prevents the cow from lowering her head during the milking operation and possibly striking the operator while he is attaching a milking unit to the cow in the adjacent stall. Preferably means are provided for supplying feed to the feed boxes, such for instance, as the feed reservoirs 91 from which pipes 92 lead to the feed boxes. The feed reservoirs 91 are preferably provided with valve means indicated diagrammatically in Figure 9 for supplying a measured amount of feed to the boxes. Such valve means preferably comprise a rotary valve member 93 which may be of any suitable construction not necessary to be described in detail for delivering a measured quantity of feed, each valve member being provided with valve lever 94 to which is connected a feed valve cord 95 which passes through a hole 96 in the arm 68 and has at its end a hand grip 97 which the operator may pull whenever necessary to thereby supply a measured amount of feed to the feed box. The feed may be supplied to the feed reservoirs through a conveyor tube 98 which will be described more in detail below.

The cows in the stalls described may be milked in any available manner, even by hand, when desired. Any suitable machine milking apparatus may be used for the purpose but the present construction was particularly designed for use with the milking apparatus disclosed in my patents mentioned above. Briefly, this apparatus comprises a bucket 100 which is suspended from the cow's back by means of a surcingle comprising a flexible strap 101 and a spring bow 102. The spring bow 102 has at one end a hook 103 which is adapted to be engaged with one of the holes 104 in the strap 101. The bucket is provided with a suspending hook 106 adapted to engage with the spring bow. The bucket is provided with a lid 108 to which are attached the short flexible tubes 107 of the teat cups 108. The surcingles are arranged to be suspended when not in use upon pins 109 carried by the arms 68 as shown in Figure 13. When a surcingle is suspended in this position with the bow resting upon the pin 109 the cow entering the stall will walk directly beneath the same and stop when she reaches the shield at the forward end of the stall. The operator thereupon grasps the end of the spring bow to which the flexible strap is attached and drops the spring bow over the side of the cow away from him until he can reach the hooked end 103 of the spring bow which he thereupon draws beneath the cow's belly and hooks into one of the holes 104. The surcingle is now attached to the cow and the operator hooks the bucket upon the spring bow. For supplying vacuum to the milking machine, a vacuum main 110 is provided which extends under all of the stalls and is provided at each stall with a branch 111 terminating in a horisontally bent portion 112. Secured to the end of each of the horisontally bent portions is a vacuum hose or stall tube 113 which is adapted to be attached to the pulsator on the bucket lid. The connection between the stall tube 113 and the horizontal portion 112 of the vacuum pipe is shown in detail in Figure 15 and includes a nipple 114 which is cut off on an angle at the end as indicated at 115 so that when the stall tube 113 is detached from the bucket and allowed to hang down the vacuum supply will be cut off, whereas when the tube is lifted up and connected with the bucket the vacuum connection will be established to the bucket. It is possible to cut off the vacuum in this manner because of the height of the milking bench and of the bent over portion 112 above the operator's floor 32 which permits the tube 113 to hang down and cut off the vacuum without its end reaching the floor 32. The automatic vacuum cut-off between the tube 113 and the nipple 114 obviates the necessity for using a stall cock, which is expensive, requires frequent cleaning, and requires an additional manipulation on the part of the operator. When the operator has attached the tube 113 to the bucket and thereby placed the latter in communication with the vacuum he attaches the teat cups to the cows' teats and the milking proceeds as described in my aforesaid patents. When the milking is completed, the operator merely detaches the tube 113 from the bucket, permits it to drop down, thereby cutting off the vacuum, then removes the teat cups from the teats, unhooks the bucket from the surcingle, unhooks the surcingle and hangs it back on the pin 109 and pulls the hand grip 83, thereby opening both gates, which permits the cow which has been milked to pass out of the stall, the opened gate 51 serving to deflect the next cow into the stall. As soon as the cow has left the stall the operator pulls the hand grip 77, thereby closing the exit gate 53 at the front of the stall. The operator also pulls the handle 97 which discharges a bait into the feed box for the next cow.

The cows enter the milking room and reach the elevated milking bench 31 by means of a ramp 120. The cows are confined to a single line in their passage up this ramp by means of a guard rail 121 secured to the wall 122 by means of overhead braces 123. This leaves the lower parts of the cows exposed on the side away from the wall 122 without any interference by supports of any kind. Along the side of the ramp 120 is a horizontal floor 124 where an inspector can stand and conveniently wash off the cows' udders and inspect the teats as the cows pass up the ramp. When the cows reach the stalls they are, therefore, ready for immediate application of the milking machines. Entrance to the milking room is guarded by a swinging door 125 which is nor-

mally held closed by a pivoted latch 126 (Figure 6), this latch being controlled by a pull cord 127 which passes around through guides 128 above the stalls so that the milking operator can grasp the cord at whatever position he may be and release the latch when he has an empty stall ready for the reception of another cow. When the latch is released the door is pulled open by a cord 130 which passes around a pulley 131 (Figure 5) to a drum 132 fixed on a shaft 133. Also fixed on the shaft 133 above the cow ramp is a drum 134 which carries a weighted curtain 135, shown as made in two sections. The ends of each curtain section are also divided into two parts, each carrying a weight 136 so that four weighted tabs are provided on the bottom of the curtain. When the latch is released the weights draw down the curtain, at the same time winding up the cord on the drum 132 and swinging open the door 125. At this time there will be a cow standing beneath the curtain as shown in Figure 3 and the curtain descending on the cow's back will cause the cow to start forward through the door 125. As the cow passes out from under the curtain, the latter will be lowered in front of the head of the following cow, thereby stopping that cow until the door is again closed and the curtain rises. For closing the door 125 a cord 140 is provided which passes alongside of the passageway for the inspector standing on the floor 124. This inspector as soon as he sees that a cow has passed through the door 125 pulls the cord 140, thereby closing the door and raising the curtain so that the next cow will advance to a position behind the closed door ready to enter the milking room when the milking operator is ready for her.

The cows come in single file through a passageway from the cow barn and pass up the ramp 120, where they are washed off and enter one at a time through the door 125 as described. After each cow is milked, she passes out through the opened gate 52 of the stall where she has been milked and walks to the end of the circular passage outside of the stalls and is guided by a guide rail 145 around to the outside of the curved wall 146 of the milking room and passes down an inclined passage 147 to a runway 148 parallel with the ramp 120 by which she entered the milking room and returns through a passageway to the cow stable. A passageway 149 outside of the passageway 147 permits an operator to walk around when necessary for the purpose of cleaning the passageway 147 and to urge the cows along in case for any reason they hesitate on their way back to the cow stable.

For delivering food to the several food reservoirs 91 I preferably employ a conveying mechanism adapted to convey a continuous supply of food through the conveyor tube 98 so as to keep the reservoirs 91 full at all times, any surplus food carried by the conveyor being returned to the source of supply, as illustrated, an elevated food bin 150, into which both ends of the conveyor tube 98 open, as indicated at 151 and 152, respectively. Mounted in the conveying tube is the conveying member which, in the construction illustrated, is in the form of a flexible coiled spring member 153 which constitutes a screw conveyor. One end of this screw member is connected by a shaft 154 with a motor 155 by which it is continuously rotated. Properly comminuted food is placed in the bin 150 and is continuously fed by the screw 153 into the end 151 of the tube 98 and is carried around through the tube, enough of it being discharged into each of the food reservoirs 91 to keep the latter substantially filled at all times. The remainder of the food is carried back and discharged into the bin through the end 152 of the tube and is again circulated, food being added to the bin 150 from time to time to keep the same properly filled. In this way the operator is sure that all of the reservoirs 91 are filled so that whenever he requires a supply of food for any food box 86 he merely pulls the handle 97 opposite the corresponding stall and delivers a measure of food to the food box.

The vacuum pipe 110 which extends around under the stalls is preferably connected with a vacuum tank 160 of the type shown in my Patent Number 1,393,387. This vacuum tank has a connection 161 to a vacuum punp, not shown, and is also provided with a water connection 162 by which it may be readily flushed. At the bottom of the tank 160 is a pivoted door 165 which is held closed so long as the system is in operation but which drops open by gravity as soon as the vacuum is shut off, thereby automatically draining the tank. The accumulation in the tank of any milk which may be drawn into the vacuum system in the form of foam or otherwise is thus prevented.

For receiving the milk from the milking machine buckets, a receptacle 35 is provided which is mounted on scales on a shelf 170 on the side of the central milk receiving chamber or room 35. Means are provided for automatically weighing the milk and delivering the same to the interior of the milking room. The milk is drawn from the receptacle 36 through a pipe 171 to a glass chamber 172 to which is connected a vacuum pipe 173 (Figure 17). In order to keep flies and dust away from the milk receiving receptacle 36, a fan 180 is mounted in an opening 181 in the wall of the milk receiving room immediately above the receptacle 36. This fan draws fresh, cool air either from the inside of the milk receiving room or through the duct 182 and blows it out over the top of the receptacle 36. The scales for weighing the milk are indicated diagrammatically at 183 and means are provided adjacent thereto upon which the operator may enter the number of the cow, the condition of the cow's teats, and the weight of the milk given by the cow. As soon as the operator has weighed the milk and made the record stated, he pulls the handle 184 which turns on the vacuum to the pipe 173 and the milk is drawn from the receptacle 36 which is then ready to receive the milk from the next cow. In the event that any cow is found to have her udder in an unhealthy condition, the milk from that cow is not poured into receptacle 36 but a funnel 190 is provided into which such milk is poured and it passes to a suitable container in the milk receiving room. The milk withdrawn from the receptacle 36 is carried into the interior of the milk receiving room where it passes through suitable coolers, separators, pasteurizers, or any other desired apparatus to the bottling machine, such apparatus not being illustrated in detail herein. Preferably, the arrangement is such that the milk can pass by gravity through all of this apparatus.

Owing to the circular arrangement of the stalls and to the location of the milk receiving and weighing means in a position towards the center of the room and owing to the convenient arrangement of the controls for the stall gates

and other parts of the apparatus, it is possible for a single operator to handle the milking of the cows in all of the stalls, attaching and removing the milking units from the cows, and to pour the milk from the buckets into the receptacle 38, weigh the same and make the necessary entries. Another operator standing on the floor 124 alongside of the cow ramp is able to clean and inspect the udders of all cows, and a third operator in the milk receiving room 35 is able to handle the milk received in that room throughout all of the operations performed therein to and including bottling. It is thus possible for three operators to do the entire work in a milking plant of the size illustrated.

Means for washing and racking the parts of the milking units are preferably provided on the outer wall of the milk receiving room 35. As here illustrated, a shelf 196 is provided on which are receptacles 196 and 197 for washing solutions, hinged covers 198 being preferably provided for these receptacles. Above the shelf 196 is another shelf 200 carrying holders 201 for the rubber parts of the units. These holders (Figures 18, 19, 20) comprise inverted dome-shaped members 202 having holes 203 in their tops into which are placed the teat cup inflations 204. The dome-shaped members have outwardly extending bottom flange 205 upon which the rubber sealing washers 206 for the bucket lids are placed. The holders 201 carrying these rubber parts may then be dipped into the solution receptacle 196 and all the rubber parts washed off, after which they are set on the shelf 200 to dry. A chamber 207 adapted to be closed by a sliding door 208 is provided to receive the buckets 189 and their lids 188, the buckets being supported in vertical position between brackets 209.

The maintenance of sanitary conditions within the milking room is important and I provide means by which this result may be accomplished with ease and certainty. A water main 210 extends around under the stalls and is controlled by a valve 211 which is preferably located adjacent to the milk receiving receptacle 36, it being provided with a foot pedal 212 for convenient operation by the operator. Connected with the water main 210 are branch pipes 215 having their ends bent over the top of each of the shields 48 and 61 so that when the water is turned on it will be delivered in such a way as to wash down the surfaces of such shields and keep them clean. The surface of the milking bench 31 slopes slightly outward as shown in Fig. 2 and around its outer margin is a gutter 216. The water flowing from the pipes 215, flushes off the surface 31 and carries all refuse into this gutter from which it flows by gravity to a suitable outlet. The gutter 217 also extends alongside of the passageway 147. Preferably all this wash water and refuse carried thereby, together with any liquid excrement discharged by the cows are washed through a suitable duct to a manure basin to be described.

In Figures 23, 24 and 25 I have shown diagrammatically a complete layout of a dairy plant embodying the features above described together with an arrangement of stables provided with a novel feed distribution system and manure drainage system. The milk house 250 contains the milking room 30 of the form already described which is located on the second floor of the milk [illegible]ome and which the cows reach by a ramp 251 [illegible]ich forms a continuation of the ramp 120 in the milk house. The milk coolers, separators, pasteurizers and bottling machines are located in the milk receiving room 35 which extends to the ground floor of the milk house so that the milk which is delivered on the second floor can pass by gravity through the various stages of treatment to final bottling and delivery. All pumps or other instrumentalities for elevating the milk during treatment are thus avoided, this being made possible by performing the milking at a raised elevation which is reached by the cows walking up a ramp. As shown diagrammatically in Figures 1 and 22, the milk passes from the receptacle 172 into the interior of the milk receiving room where it is received by a strainer 356. The interior of the milk receiving room has a ground floor 351 and a series of elevated benches indicated at 352 and 353. Mounted on the upper bench 352 is a pasteurizer indicated diagrammatically at 354 and mounted on the bench 353 are a separator 355 and a cooler 356. On the ground floor 351 is mounted a bottler 357 from which leads a bottle conveyor 358. Various courses may be provided for the milk depending upon whether it is desired to pasteurize it, separate it, etc., but all of such courses are so arranged that the milk will flow by gravity without the necessity of pumping or lifting. For instance, the milk may be carried from the strainer 356 to the pasteurizer through a duct 360. From the pasteurizer the milk passes through a duct 361 to the separator, the cream passing from the latter through the pipe 362 to the cooler, while the skim milk may be discharged to a vat (not shown) through a spout (not shown). From the cooler the cream passes through a spout 364 to the bottler. If it is desired to pasteurize the milk and not to separate it, the milk passes directly from the pasteurizer to the cooler through a duct 365 shown in dotted lines in Figure 1. However, if it is desired neither to pasteurize nor separate the milk, it may be passed directly from the strainer to the cooler through a duct 366 shown in dotted lines. Other alternative arrangements may be made as desired. Ramp 251 connects with lanes 252 for the cows coming from the stables 253 and returning from the milk house to the stables, the paths of the cows passing from the stables to the milk house being indicated by arrows 254, the paths of the returning cows being indicated by arrows 255. The stables are provided with rows of stanchions indicated diagrammatically by the lines 260 between which are the manger spaces 261. The cows' stalls and the lanes for providing access to the stalls are so graded and guttered as to drain laterally towards the side walls of the stables where waterpipes indicated diagrammatically by the lines 265 are provided, and all of the surfaces and gutters also drain towards the lanes 252 at the front of the stables which are also suitably guttered and provided with waterpipes if necessary, so that all of the manure may be flushed, with or without the aid of brooms, towards the front of the stables. The lanes 252 slope, as indicated in Figure 24, in the general direction of the ramp 251, adjacent to which is located a manure basin 270. Back of each of the stables a cow yard 280 is provided, these cow yards being also graded so that the drainage will be in the general direction indicated by the arrows 281, between the central stables and to the manure basin. Adjacent to each of the stables a silo 282 is preferably located.

The provision of a manure basin into which all of the drainage from the stables, cow yards, milk rooms, and runways takes place is a valuable feature of my dairy plant. Owing to the fact

that all of these areas and passageways are flushed with wash water which carries or assists in carrying all of the manure both solid or liquid to the basin, it is possible by a proper construction of the basin to utilize such water to leach out all of the soluble values from the manure which constitute the most useful parts thereof, and thus produce a liquid manure which can be applied cheaply and efficiently to the pasturage immediately surrounding or near the dairy plant, and thus keep the same in a highly enriched condition. As shown diagrammatically in Figures 23 and 25, the manure basin 270 comprises a sunken cylindrical receptacle preferably of concrete in the center of which is a cylindrical strainer or filter 280 which communicates at its lower end with a sump 281 which communicates with a vertical passageway or well 282 shown in Figure 25. The manure and wash water is discharged into the concrete basin and the water and liquid parts of the manure are leached through the filter or strainer into the sump 281 from which they are pumped out through the well 282 by means of a suitable suction pump (not shown) and discharged into tank wagons or other receptacles or spread over the adjacent pasturage by means of any desired form of liquid manure spreader (not shown). The solid parts of the manure may be removed from the basin in any suitable manner as by means of a grapple (not shown) adapted to be suspended from a track 285.

Located near the rear wall of each of the stables is a series of hoppers 285, 286, 287 and 288 for holding supplies of the various kinds of feed which it may be desired to provide for the cows, such for instance as ground feed, chopped hay, beet pulp, etc. In order to keep these hoppers supplied at all times with the several feeds, I preferably provide the conveyor arrangement shown diagrammatically in Figures 24 and 25. As here illustrated conveyor troughs 290 and 291 extend throughout all of the stables, an endless conveyor 292 being provided which travels along these troughs from the feed storage room 293. The conveyor may be of any suitable construction, but I have found that an endless flexible member formed of spiral construction, like a spiral spring, running over pulleys 295 and 296 is satisfactory. In the feed storage room is a receiving hopper 300 into which the lower end of the conveyor dips and to which the different kinds of feed and bedding are conveyed by a truck 310. Corresponding to storage hoppers 285, 286, 287 and 288 are control levers 304, 305, 306 and 307 in the storage room, each of which by simple mechanism (not shown) serves to operate a series of outlets in the trough 290, preferably slide controlled in a well understood manner, which open into their respective hoppers. To operate this distributing system, the operator, for instance, by throwing control lever 305 opens simultaneously all outlets from trough 290 into the hoppers throughout the stables in series 286. He then shovels from the truck 310 the kind of feed to be delivered to hoppers 286. The conveyor carries the feed from receiving hopper 300 along trough 290 and discharges it from the trough into the first storage hopper in series 286 which is not full. When this hopper is full the feed overflows to the next hopper which is not full and so on until all of this series of hoppers are full. The excess supply is then returned back along trough 291 to discharge outlet 301 where it is discharged into the supply truck 310. When the overflow feed thus begins to return to the truck 310, the operator stops shoveling feed into the receiving hopper and the conveyor sweeps all of the feed from the receiving hopper 300 and from the conveyor troughs 290 and 291 and the distributor is then cleared and ready to handle another variety of feed. In this same way each of the several series of storage hoppers is filled with their respective kinds of supplies from the common receiving hopper 300 and the overflow excess is carried back to the storage room. It should be noted that with this system of distribution the hoppers are not necessarily filled in consecutive order but should any one or more of the hoppers, in the series, be drawn upon and emptied or partly emptied any or all of such hoppers will be successively refilled and the excess overflow returned to the source of supply. By this arrangement a single operator in the feed room is enabled to keep all of the stables supplied at all times with the various feeds required for the cows and, with the facilities here provided, also have sufficient time to distribute the feed to the individual cows.

While I have illustrated and described in detail certain preferred forms of my invention, it is to be understood that changes may be made therein and the invention embodied in other structures. I do not, therefore, desire to limit myself to the specific construction illustrated, but intend to cover my invention broadly in whatever form its principles may be utilized.

I claim:

1. In a milking plant having a station for the operator, a series of milking stalls each having a feed box at the head end thereof alongside the operator's station and each having confining members so arranged that the cow in one stall overlaps the hip of the cow in each stall except the rearmost is required to stand so that her hips extend alongside the head of the cow behind her and at the side thereof remote from the operator's station.

2. In a milking plant having a station for the operator, a series of milking stalls having confining members so arranged that the cow in each stall except the rearmost is required to stand so that her hips extend alongside the head of the cow behind her and at the side thereof remote from the operator's station, and each stall including a shield or guard interposed between the hip of the cow ahead and the head of the cow behind her.

3. In a milking plant having a station for the operator, in combination, a series of stalls, a runway for the cows at the side of the stalls remote from the operator's station, from which the cows enter the stall, the stalls being so arranged that the cow in each stall except the rearmost is required to stand so that her hips extend alongside the head of the cow behind her and at the side thereof remote from the operator's station.

4. In a milking plant having a station for the operator, a series of milking stalls each having a feed box at the head and thereof alongside the operator's station and each having confining members so arranged that the cow in each stall except the rearmost is required to stand so that her hips extend alongside the head of the cow behind her and at the side thereof remote from the operator's station, each stall including a shield or guard interposed between the hip of the cow ahead and the head of the cow behind her, and the feed receptacle of each stall being supported on said shield or guard of the stall ahead.

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5. In a milking plant, a series of milking stalls, each provided with a feed box, a feed reservoir for each of said feed boxes, a common source of supply, and a conveyor which withdraws feed from said source and keeps each reservoir filled with feed and returns the excess or overflow to the source of supply.

6. In a milking plant, a series of stalls arranged along a lane of approach, an entrance door to said lane, a latch for said door, a curtain arranged to close about the rear of the first cow at the entrance door for the purpose of detaining the cow following, a floor adjacent the stalls, means whereby the milking machine operator can, from the floor, unlatch said entrance door, and means automatically causing the door to be opened and the curtain to be closed upon the unlatching of the door.

7. In a milking plant, a series of stalls arranged along a lane of approach, an entrance door to said lane, a latch for said door, a curtain arranged to close about the rear of the first cow at the entrance door for the purpose of detaining the cow following, a floor adjacent the stalls, means whereby the milking machine operator can, from the floor, unlatch said entrance door, automatic means whereby the door is opened and the curtain is closed when the door is unlatched, and means on the approach side of the entrance door for closing said door and simultaneously raising said curtain for the approach of the next cow.

8. In a milking plant, a milking stall provided with an entrance gate so arranged that when it is being closed it presses against the cow's hip and causes her to step over to a position convenient to be milked from the side of the stall opposite the gate and means operable from the side of the stall opposite the gate for drawing the gate toward the cow and locking it at any desired position.

9. In a milking plant, a milking stall provided with an entrance gate so arranged that when it is being closed it presses against the cow's hip and causes her to step over to a position convenient to be milked and a guard mounted adjacent to the floor near the rear end of the stall so arranged that it extends in front of the cow's rear foot and causes her to keep her foot rearward on the operator's side in convenient position to be milked.

10. In a milking plant, a floor for a milking machine operator, a series of milking stalls so arranged that the heads of the cows overlap the hips of the cows in front of them on the side next to said floor, sanitary shields arranged at the rear of each cow and means for flushing all shields and the floor of the stalls.

11. In a milking plant, a raised milking room having a series of stalls arranged around a central space, a milk receiver in said central space, a milk receiving room containing milk treating devices at a lower level than said milking room and communicating with the receiver whereby milk taken from the cows in said milking room can be passed through said milk treating devices by gravity, and a ramp by which the cows may walk to said elevated milking room.

12. In a milking plant having a station for the operator, a series of milking stalls each having a feed box at the head end thereof alongside the operator's station and each having confining members so arranged that the cows in all the stalls are required to stand with their heads and shoulders substantially tangent to a common circle and that the hips of the cow in each stall are disposed alongside the head of the cow behind her at the side remote from the center of said circle.

HERBERT McCORMACK.

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APPARATUS FOR CLEANING AND VENTILATING BARNS AND STABLES FOR CATTLE

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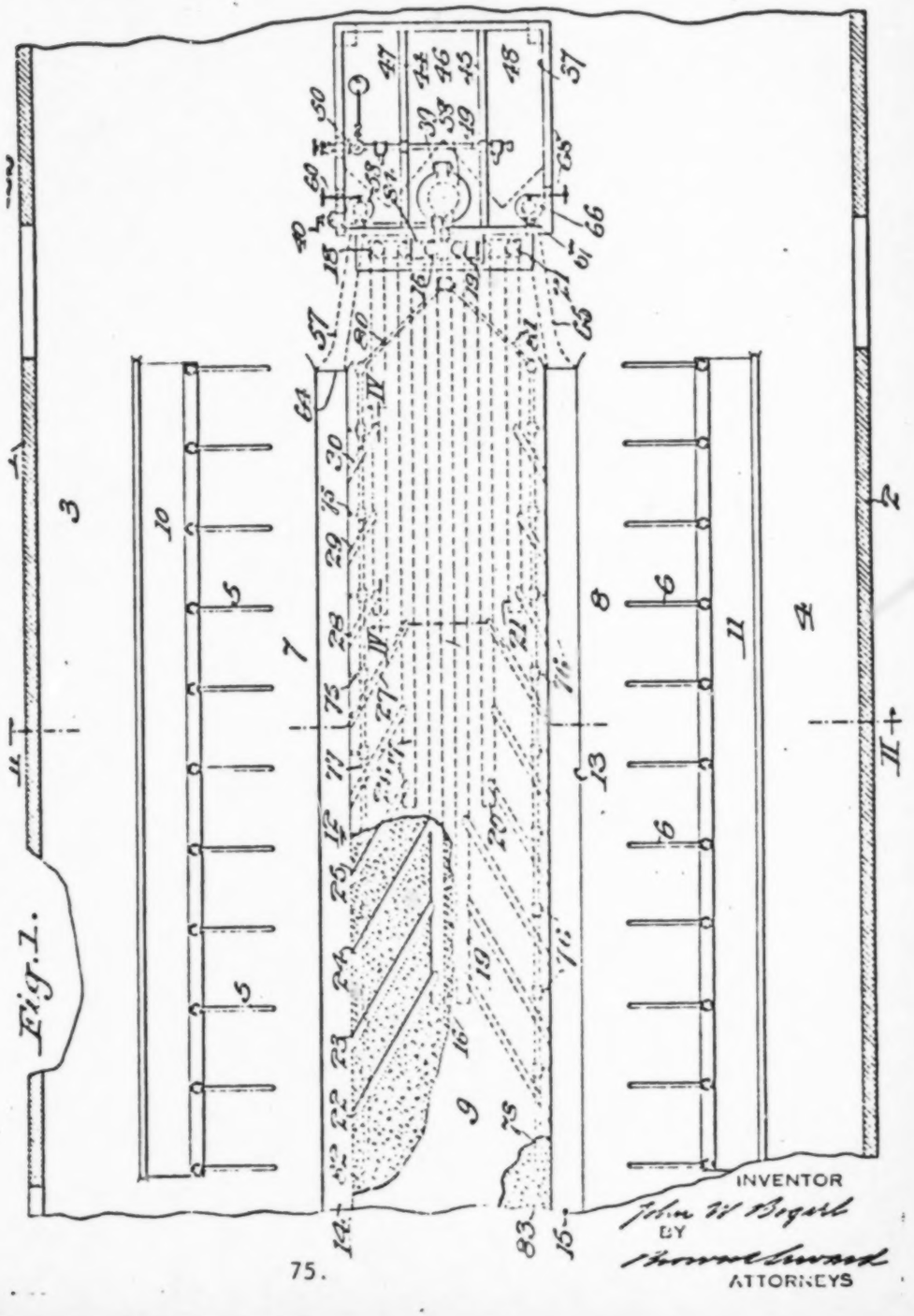

March 4, 1941. J. W. BOGERT 2,233,766

APPARATUS FOR CLEANING AND VENTILATING BARNS AND STABLES FOR CATTLE

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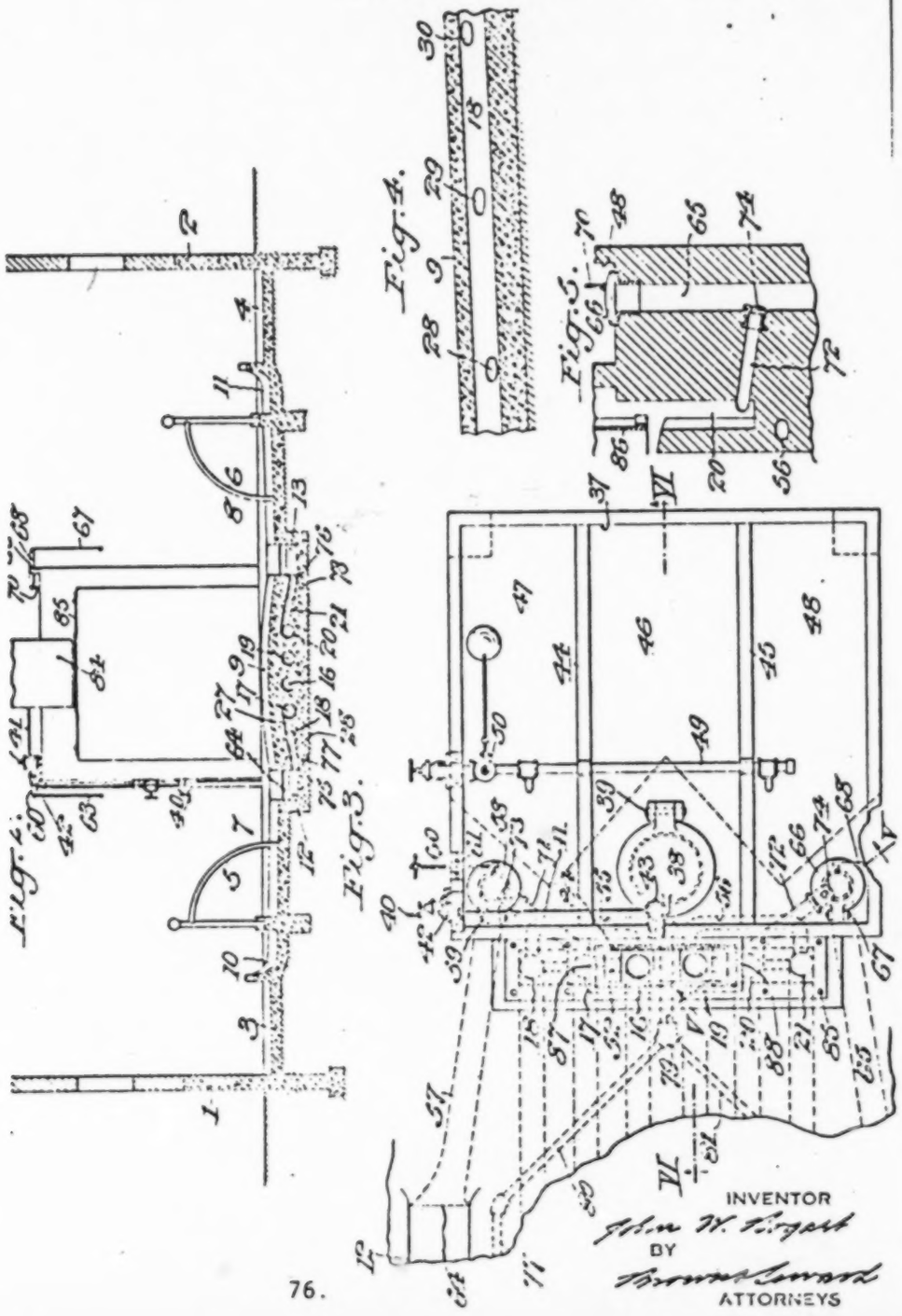

Fig. 3.

Fig. 4.

Fig. 5.

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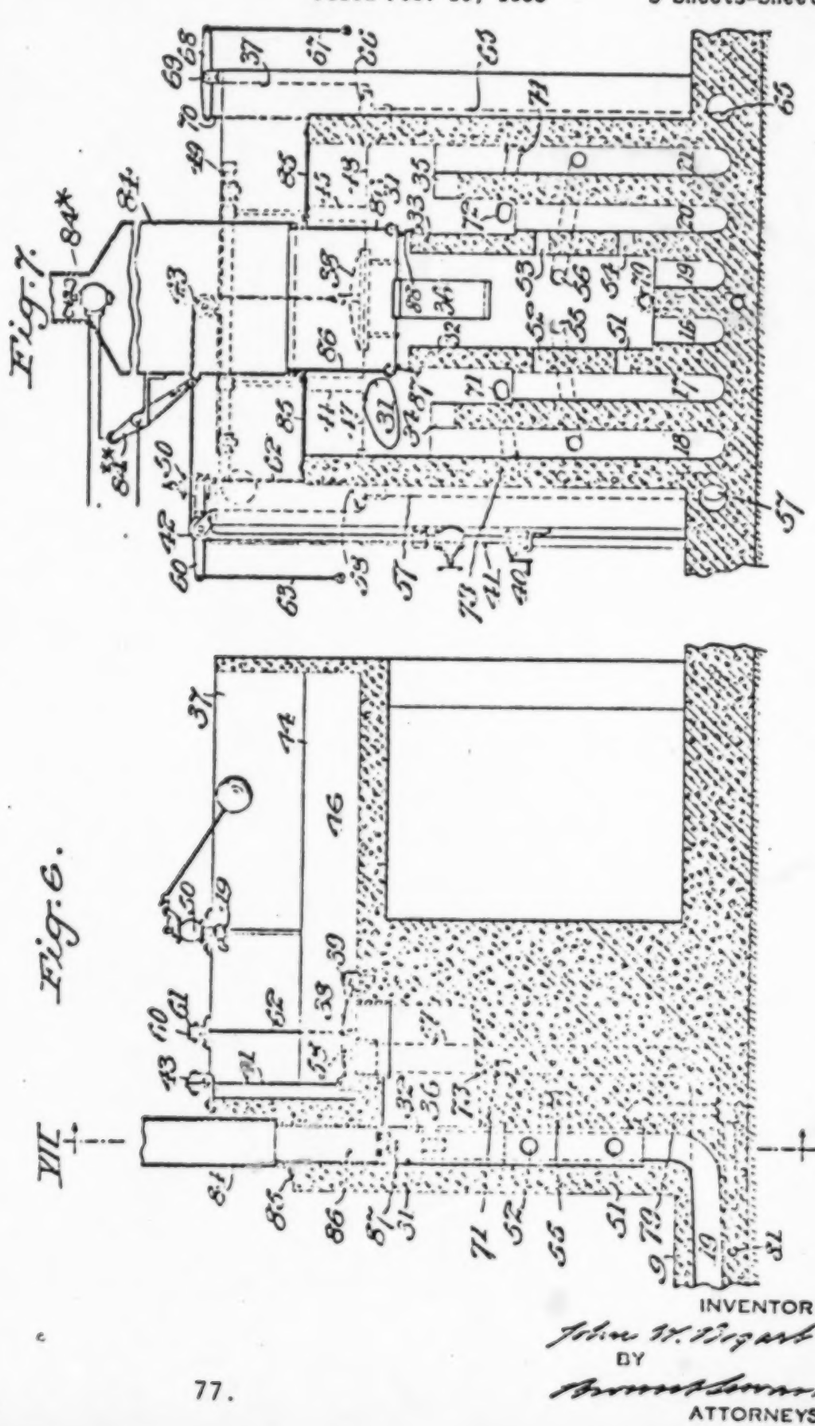

Fig. 7.

Fig. 6.

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APPARATUS FOR CLEANING AND VENTILATING BARNS AND STABLES FOR CATTLE

John W. Bogert, Stamford, Conn.

Application February 19, 1938, Serial No. 191,384

21 Claims. (Cl. 119—16)

This invention relates to an apparatus for cleaning and ventilating barns and stables for cattle and the like, and has for an object to provide means for automatically cleaning the manure and urine gutter at the rear of the stalls by progressive action of a fluid cleaning medium.

Another object of the invention is to provide means for directing the cleaning medium to different portions of the gutter at various velocities so that the matter deposited in the gutter will be removed from certain portions of the gutter in advance of other portions of the gutter.

Another object is to provide means for controlling the flow of the fluid cleaning medium so that the matter in portions of the gutter will first be successively softened and semiliquefied and then the treated material in the gutter gradually removed without overflowing the gutter and finally flushing the gutter throughout its entire length.

Another object is to provide means for ventilating the barn or stable by way of the gutters through the cleaning medium means, alternating with its cleaning function, so that each portion of the gutter at the rear of each stall will be separately and individually ventilated.

Another object is to provide means for controlling the flow of exhaust air so that the amount of air exhausted is graduated according to the elevation of each portion of the gutter, there being greatest induced draft in the lowest portion of the gutter.

Another object is to provide certain improvements in the form, construction and arrangement of the several parts whereby the above named and other objects may effectively be attained.

A practical embodiment of my invention is represented in the accompanying drawings, in which,

Fig. 1 represents a detail horizontal section of a portion of a cattle barn or stable having my improved apparatus installed therein between oppositely disposed rows of stalls,

Fig. 2 represents a vertical section taken in the plane of the line II—II of Fig. 1 looking in the direction of the arrows,

Fig. 3 represents a detail plan view partly in section and on a larger scale of the fluid cleaning medium supply tank and adjacent mechanism,

Fig. 4 represents a detail vertical section of one of the ducts taken in the plane of the line IV—IV of Fig. 1 looking in the direction of the arrows,

Fig. 5 represents a detail vertical section taken in the plane of the line V—V of Fig. 3 looking in the direction of the arrows,

Fig. 6 represents a vertical section taken in the plane of the line VI—VI of Fig. 3 looking in the direction of the arrows, and

Fig. 7 represents a vertical section taken in the plane of the line VII—VII of Fig. 6 looking in the direction of the arrows.

The cattle barn or stable comprises side walls 1—2, feed alleys 3—4 adjacent the walls respectively, two series of stall-partitions 5—6 forming oppositely disposed rows of stalls 7—8, and a walk 9 interposed between the rows of stalls for the passage of the cattle to the stalls. A longitudinally arranged manger 10 is disposed between the stalls 7 and the alley 3 to extend along the head end of the stalls, while a similar manger 11 is located between the alley 4 and the row of stalls 8. A gutter 12 is interposed between the walk 9 and the row of stalls 7 for the reception of matter discharged by the cattle in the stalls, while a similar gutter 13 is located between the ends of the row of stalls 8 and the walk 9. The floors or bottoms of the gutters 12—13 are inclined downwardly to the left (Fig. 1) so that the liquefied or semi-liquefied matter will pass by gravity from the ends 14—15 of the gutters to a common reservoir or tank (not shown) where it may be stored for future use. The bottoms of the gutters 12—13 are also inclined transversely toward each other as shown in Fig. 2.

In order to bring the matter deposited in the gutters to a liquefied or semi-liquefied state so that it will readily move through the gutters to the outlets 14—15, I propose to apply to the matter at various points throughout the length of the gutters 12—13 predetermined amounts of water at different velocities. To prevent the fluid or simi-fluid mass from overflowing the gutters, the matter nearest the outlets 14—15 is first treated to liquefy it and then flushed out of the gutters while the remainder of the matter in the gutters is being treated simultaneously to soften and liquefy it so that it will flow by gravity through the gutters to the outlets 14—15. To accomplish this result I provide a series of longitudinal conduits 16—17 and 18 for feeding the gutter 12 while similar conduits 19—20 and 21 feed the gutter 13. The substantially horizontal portions of these conduits are concealed beneath the walk 9 and inclined downwardly towards their closed ends. The conduit 16 is provided with lateral branches 22—23 and 24 directed forwardly away from the conduit in position to enter the gutter at an angle to the path of travel and adjacent the bottom thereof. For instance, one end of the lateral branch 24 is joined at one portion of the top of the conduit 16, while one end of the lateral branch 22 is connected at one portion of the bottom of the conduit 16, and one end of the lateral branch 23 is coupled at an intermediate and central portion of the conduit 16. The other or discharge end of each of the lateral branches 22—23—24 pierce the side wall of the gutter adjacent the bottom. By this arrangement, the lateral branches are also given a slight downward inclination in a lateral direction toward the bottom of the gutter, thereby serving to empty the conduits and branches of all fluid medium when the flow from the reservoir ceases. The conduit 17 is also provided with lateral forwardly inclined branches 25—26 and 27 connected with the gutter 12 in the same manner as that above described with respect to the conduit 16 and its branches 22, 23, and 24.

The conduit 18 also has lateral forwardly inclined branches 28, 29, and 30 connected with the gutter 12 and disposed in the same manner as that described with respect to the conduits 16 and 17 and their lateral branches 22-27 inclusive. The conduits 19—20 and 21 also have sets of lateral forwardly inclined branches connected with the side wall of the gutter 13, each of which set of branches is disposed and arranged similar to that described with respect to the branches 22-30 inclusive of the conduits 16—17 and 18 respectively. The diameter of each of the branches is smaller than the diameter of its conduit, so that the combined areas in cross section of the several branches will be slightly less than the cross sectional area of their respective conduits, thereby providing a uniform distribution of the fluid medium with positive pressure over a predetermined length of gutter or within the length of gutter adjacent the set of branches of each conduit.

The open ends of the conduits 16-21 inclusive are turned upwardly into communication with a rectangular chamber 31 having partitions 32, 33, 34, and 35 (Fig. 7), of which the partition 32 separates the conduits 16 and 19 from the conduit 17, while partition 34 separates the conduit 17 from the conduit 18. The partition 33 separates the conduits 16 and 19 from the conduit 20, while the conduits 20—21 are separated by the partition 35. The partitions 32—33 extend upwardly into the chamber 31 and in close proximity to a passage 36 opening into the bottom of the reservoir 37. This passage 36 is closed by a cap valve 38 pivoted at 39 to hinge on the bottom of the reservoir, which valve is lifted to open the passage 36 by means of a crank 40 and a flexible connection 41 passing over guide pulleys 42—43 fixed on the walls of the reservoir. The valve 38 is closed on the passage by gravity or any well known or approved means. The reservoir 37 has partitions 44—45 extending upwardly therein from front to rear and on opposite sides of the valve 38, thereby forming three separate supply basins therein denoted by 46, 47, and 48.

A water supply pipe 49 furnishes water to the reservoir 37 and is controlled by a float operated valve 50 in the well known and approved manner. The valve 50 is adjusted so that the level of the water in the reservoir 37 will be well above the partitions 44—45 when the valve is closed and the supply cut off. When the valve 38 is opened the greater volume of water will pass from the reservoir and basin 46 through the passage 36 into the chamber 31 leaving the basins 47—48 full of water to the top of the partitions 44—45, the function of which will be hereinafter explained. As the water passes into the chamber 31 and first through the conduits 16—19 and their lateral branches, certain of it will then pass through ports 51—52 in the partition 32 and ports 53—54 in the partition 33 which in turn will feed the conduits 17—20 and their respective lateral branches. Simultaneously the conduits 18—21 with their lateral branches will be supplied with water from the chamber 31 by means of by-passes 55—56, respectively. From the foregoing it will be seen that upon opening the cap valve 38 the volume of water in the reservoir passing through the passage 36 into the chamber 31 will tend to force the water through the conduits 16—19 and their lateral branches with great velocity, thereby entering the gutters with maximum pressure which will move the matter therein toward the outlets 14, 15. The water leaking through the ports 51-54 inclusive will pass through the conduits 17, 20 and their branches to the gutters and serve to soften the matter therein before the water in the chamber 31 overflows the partitions 32—33. After the water has passed over the partitions 32—33 it will travel through the conduits and branches and flush the gutters. This result is accomplished by reason of the fact that the ports and the by-passes are constructed with substantially the same cross-sectional area as that of the lateral branches. Thus if the time period consumed and the amount of water passing through the conduits 16—19 is considered, the volume of water entering the chamber 31 will overflow the partitions 32—33 and gradually serve portions of the gutters controlled by the conduits 17—20 to a working or flushing pressure. Likewise, the water leaking through the by-passes 55—56 from the chamber 31 to the conduits 18—21 will serve to primarily soften the matter in the gutters before the water flows over the partitions 34—35 for the final flushing of the gutters. It is to be pointed out that the water in the reservoir and basin 46 is sufficient to completely fill the chamber 31 and overflow all partitions.

After the water has been discharged from the basin 46 through the several conduits, branches and gutters I find it advantageous to further flush the gutters separately throughout their entire length to the discharge end. This result is accomplished by means of a conduit 57 connecting the basin 47 with the gutter 12 and providing a cap valve 58 hinged at 59 on the bottom of the basin and adapted to close the opening to the conduit. This valve 58 is manipulated by means of a lever 60 pivoted in a bracket 61 fixed on the wall of the reservoir 37 and having one end connected to the valve by a link 62 while the other is provided with a pull cord or chain 63. When desired the valve 58 may be opened by manipulating the pull cord lever and link so that the water in the basin 47 will pass downwardly through the conduit 57 and out through the outlet 64 at the end of the gutter 12. A similar means is provided for flushing the gutter 13 by means of a conduit 65 connecting the basin 48 with the end of the gutter 13, which conduit is closed by a cap valve 66 hinged at 67 on the bottom of the basin 48 and opened by the manipulation of a pull cord or chain 67, lever 68 pivoted in a bracket 69 fixed on the wall of the reservoir 37 and link 70 connecting the valve and lever.

The conduits 57 65 are also in communication with the conduits 17—20 by means of by-

passes 71—72 respectively, so that while water is flowing into the conduits 17—20, it will also serve the end of the gutters connected with the conduits 57—65. These by-passes 71—72 are provided with check valves 73—74 respectively to prevent any loss of water from the conduits 57—65 while the valves 58—66 are open for end flushing of the gutters. The area of the opening 36 covered by valve 38 is limited to an area slightly greater than the combined areas of the branches of the conduits, and so gives a similar time element in washing the last portions of the gutters to that induced by the escape of the water from the ports and by-passes in the first part of the flushing through the conduits 16—19. Thus by more rapid opening of the valve 38, the water will pass from the reservoir and fill the chamber in a shorter period, at the same time furnish a greater washing pressure, if desired.

The varied resistance of the water used for final cleaning of the gutters lies mostly in the different lengths of the conduits and the position of their branches with respect thereto and to the gutters. The volume of water from the reservoir enters the chamber 31 and rises therein above the partitions 32—33 so as to overflow from one to the other of the conduits. Thus the greater water pressure is first given to the conduits 16—19 by reason of the heights of the partitions 32—33, over which the water must flow before passing into the conduits 17—20. When the water fills the conduits 17—20 it will rise above the partitions 34—35, which are of lesser height than the partitions 32—33 and flow thereover in a volume into the conduits 18—21.

The valves 38, 58, and 66 are each closed upon their respective openings by gravity or other suitable means and opened by manipulating pull cords or chains as desired.

The gutters 12—13 are also provided with inclined drains 75—76 respectively concealed beneath the walk 9 for removing urine or other liquid deposited in the gutters. Each of the drains 75 opens into the bottom of the gutter 12 at the end of each stall 7 and is connected to a longitudinal pipe 77, while each of the drains 76 opens into the bottom of the gutter 13 at the end of each stall 8 and connects with a similar longitudinal pipe 78, the ends of which pipes 77—78 are joined to a central pipe 79 by lateral pipes 80—81. The central pipe 79 is brought upwardly into open communication with the chamber 31, so that when the gutters are being cleaned these pipes and their drains are also being flushed. The pipes 77—78 are inclined downwardly toward the discharge ends of the gutters, while the discharge ends of the pipes are tapered and curved outwardly at 82—83 (Fig. 1) to drain by gravity into the outlets 14—15.

When the conduits 16 to 21 inclusive and their respective branches are not feeding water to the gutters 12—13 they are caused to function as a ventilating means. This means comprises a flue 84 extending upwardly from the cover 85 of the chamber 31 and provided with a baffle 85 depending therefrom. Check valves 87—88 are hinged to the bottom of the baffle 85 in position to coact with the upper ends of the partitions 32—33. The baffles allow the water to flow over the partitions but do not permit the air to return through the passages. In order to increase the action of the ventilating means, a motor driven ventilating fan 84* (Fig. 7) is installed in the flue 84, the electric energy of the fan motor being controlled by a switch 84** operated by the flexible connection 61 of the valve 38 in any well known and approved manner, so that when the valve 38 is opened to release the water in the basin 46, the electric energy will be cut off from the fan motor. When the valve 38 is closed the switch will be moved to restore the electric energy to the fan motor.

The action of the chamber 31 and conduits when using the apparatus as a ventilating means is reversed, since the main draft or suction is created in the flue 84 and baffle 85 between the partitions 32—33, the space therebetween being automatically closed by the hinged check valves 87—88. The air is drawn from the conduits 17, 20, 18, 21, and their respective branches by the ports 51-54 inclusive and by-passes 55, 56. Thus the conduits 16 and 19 are open to a maximum amount of suction created in the flue 84, and the conduits 18, 21, being of least length exact a minimum suction, while conduits 17, 20 draw an intermediate amount of suction.

Thus it will be seen that this apparatus may be alternately used as a ventilating means as well as a cleaning means, and is exceedingly efficient in the most frigid weather due to the fact that the coldest air is removed from the gutters and the greater part of it from the lowest portions of the gutters, thereby maintaining a barn or stable with more uniform heat. Furthermore the contaminated air of the gutters is kept to the rear by its direction of flow towards the gutter and drawn away from the animals, to be exhausted outside the barn or stable.

It will be understood that various changes may be resorted to in the form, construction, arrangement, and material of the several parts without departing from the spirit and scope of my invention, and hence I do not wish to be limited to the particular embodiments herein shown and described except as they may be included in the claims.

What I claim is:

1. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, and a plurality of conduits having longitudinal portions concealed beneath said walk and other portions bent upwardly, said longitudinal portions having outlets opening into one side wall of the gutter, said upwardly bent portions of the conduits emanating from a single source above and at one end of the walk, said outlets terminating at different positions throughout the length of the gutter for conveying a fluid medium thereto for cleaning the same.

2. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, and a plurality of conduits having longitudinal portions concealed beneath said walk and other portions bent upwardly, each of said concealed portions having a plurality of outlets opening into one side wall of the gutter and said upwardly bent ends of the conduits emanating from a single source above and at one end of the walk, said outlet terminating at different positions throughout the length of the gutter for conveying a fluid medium thereto for cleaning the same.

3. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, and a plurality of conduits having longitudinal portions concealed beneath said walk and other portions bent upwardly, each of said concealed portions having a plurality of outlets of relatively small diameter opening into one side wall of the gutter and spaced apart, said upwardly bent portions emanating from a single source above and at one end of the walk, said outlets terminating at different positions throughout the length of the gutter for conveying a fluid medium thereto for cleaning the same.

4. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir disposed above and at one end of the walk, and a plurality of conduits having longitudinal portions concealed beneath said walk and other portions bent upwardly, said concealed portions having outlets opening into one side wall of the gutter, said upwardly bent portions being connected with said reservoir, said outlets terminating at different positions throughout the length of the gutter for conveying the fluid medium thereto for softening and liquifying the matter therein and finally flushing the gutter to clean the same.

5. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir disposed above and at one end of the walk, a plurality of conduits having longitudinal portions concealed beneath said walk and other portions bent upwardly, said concealed portions having outlets opening into one side of the gutter, and a longitudinal duct concealed beneath the walk below the longitudinal portions and level of the gutter and connected thereto to drain the liquid therefrom, said upwardly bent portions and duct being connected with the reservoir for receiving the fluid medium for cleaning the same.

6. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir, conduits concealed beneath said walk and connecting said reservoir and gutter, said conduits being adapted to convey fluid medium to the gutter at different positions throughout its length for softening and liquefying the matter therein, and manually operable means in the reservoir for controlling the volume and velocity of flow of the fluid medium to the gutter for finally flushing and cleaning the same.

7. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir, conduits concealed beneath said walk and connecting said reservoir and gutter, said conduits being adapted to convey the fluid medium to the gutter at different positions throughout its length in progressive sequence for softening and liquefying the matter therein, and means in the reservoir for controlling the volume and velocity of flow of the fluid medium to the gutter for finally flushing and cleaning the same.

8. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a plurality of conduits having longitudinal portions concealed beneath said walk and other portions bent upwardly, said concealed portions having outlets opening into one side of the gutter, said upwardly bent portions emanating from a single source above and at one end of the walk, said outlets terminating at different positions throughout the length of the gutter, and a flue adjacent the upwardly bent portions for exhausting the air from the conduits and gutter.

9. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a fluid medium reservoir, a chamber for receiving the fluid medium, a flue extending upwardly from the chamber and longitudinally inclined conduits connecting said chamber and gutter adapted to convey the fluid medium to the gutter at different positions throughout its length for cleaning the same, said chamber, conduits and flue being adapted to exhaust the air from the gutter throughout its length when the flow of fluid medium ceases.

10. In apparatus of the character described, a series of cattle stalls having a common gutter, a fluid medium reservoir, a chamber divided into sections for receiving a fluid medium, ports communicating with said sections for forming a leakage therebetween, and longitudinally inclined conduits connecting the sections and gutter adapted to convey the fluid medium to the gutter at different positions throughout its length for cleaning the same.

11. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a fluid medium reservoir, a chamber divided into sections for receiving a fluid medium, said chamber having a flue open to atmosphere, ports communicating with said sections for forming a leakage therebetween, and longitudinally inclined conduits connecting the sections and gutter adapted to convey the fluid medium to the gutter at different positions throughout its length for cleaning the same, said chamber, conduits and flue being adapted to exhaust the air from the gutter throughout its length when the flow of the fluid medium ceases.

12. In apparatus of the character described, a series of cattle stalls having a common gutter, a fluid medium reservoir, a chamber divided into sections of unequal areas for receiving the fluid medium, ports communicating with said sections for forming a leakage therebetween, and longitudinally inclined conduits connecting the sections and gutter adapted to convey the fluid medium to the gutter at different positions throughout its length for cleaning the same.

13. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a fluid medium reservoir, a chamber divided into sections of unequal areas for receiving the fluid medium, said chamber having a flue open to atmosphere, ports communicating with said sections for forming a leakage therebetween, and longitudinally inclined conduits connecting the sections and gutter adapted to convey the fluid medium to the gutter at different positions throughout its length for cleaning the same, said chamber being adapted to exhaust the air from the gutter through said conduits, chamber and flue.

14. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length and provided with a longitudinally inclined bottom for directing the fluid matter deposited therein away from the stalls, a cattle walk adjoining said gutter, a fluid medium reservoir disposed above and at one end of the walk, and a plurality of conduits having longitudinally inclined portions concealed beneath said walk and other portions bent upwardly, said upwardly bent portions being con-

nected with said reservoir and the end of each concealed portion terminating at a different position throughout the length of the gutter, each of said last named ends being provided with a plurality of branches, each of said branches opening into one side wall of the gutter and spaced apart for conveying the fluid medium to the gutter for softening and liquefying the matter therein.

15. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length and provided with a longitudinally inclined bottom for directing the matter deposited therein away from the stalls, a fluid medium reservoir, and longitudinally inclined conduits each having a plurality of branches at one end, a flue in communication with the conduits and open to atmosphere, said branches opening into the gutter at different positions throughout its length, the other end of each of said conduits being connected to the reservoir for conveying the fluid medium to the gutter through the branches for cleaning the same, said branches and longitudinal conduits also being adapted to exhaust the air through the flue at different positions throughout the length of the gutter when the flow of the fluid medium ceases.

16. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length and provided with a longitudinally inclined bottom for directing the fluid matter deposited therein away from the stalls, a cattle walk adjoining said gutter, a fluid medium reservoir disposed above and at one end of the walk, said reservoir being divided into sections, each section having a separately operable valve for discharging the fluid medium therein, one of said valves being adapted to control the discharge of a larger volume of fluid medium than the other valve, a longitudinally inclined duct concealed beneath said walk and below the level of the gutter, said duct having spurs opening into the gutter for draining the same and having one end connected to at least one section of the reservoir for flushing the same, a plurality of longitudinally inclined conduits concealed beneath the walk, each of said conduits having one end connected with said reservoir and the other end of each conduit terminating at a different position throughout the length of the gutter, each of said last named ends being provided with a plurality of branches inclined downwardly and forwardly and each of said branches opening into one side wall of the gutter in spaced relation for conveying the fluid medium to the gutter for softening and liquefying the matter therein and finally flushing the gutter to clean the same and a conduit leading from a section of the reservoir and controlled by a second valve, this conduit discharging into an end of the gutter.

17. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length and provided with a longitudinally inclined bottom for directing the matter deposited therein away from the stalls, a cattle walk adjoining said gutter, a fluid medium reservoir divided into sections each having a separately operable valve therefor, a longitudinally inclined duct concealed beneath said walk and provided with spurs opening into the bottom of the gutter for draining the same, said duct also being connected to at least one section of the reservoir, and longitudinally inclined conduits concealed beneath the walk and each having a plurality of branches at one end, a flue in communication with the conduits and open to atmosphere said branches opening into one side wall of the gutter at different positions throughout its length, each branch of the plurality being arranged at a different horizontal level and terminating adjacent the bottom of the gutter, the other end of each of said conduits being connected to the reservoir for conveying the fluid medium to the gutter for softening and liquefying the matter therein and finally flushing the gutter to clean the same, said longitudinal duct and conduits also being adapted to exhaust the air through the flue at different positions throughout the length of the gutter when the flow of the fluid medium ceases.

18. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir, a chamber for receiving the fluid medium, longitudinally inclined conduits concealed beneath said walk and connected with said chamber, and a plurality of laterally and forwardly inclined branches in each of said conduits in open communication with one side wall of the gutter to convey the fluid medium thereto, the outlets of said branches in each conduit being disposed at different positions with respect to each other throughout predetermined length of gutter for softening and liquefying the matter therein and cleaning the same.

19. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir, a chamber for receiving the fluid medium, longitudinally inclined conduits concealed beneath said walk and connected with said chamber, and a plurality of laterally and forwardly inclined branches in each of said conduits in open communication with one side wall of the gutter, each of said branches being of smaller diameter than the diameter of its conduit, the outlets of the branches in each conduit being disposed at different positions with respect to each other throughout predetermined length of gutter for distributing the fluid medium therein to soften and liquefy the matter in the gutter and wash portions of the gutter in progressive sequence.

20. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a cattle walk adjoining said gutter, a fluid medium reservoir, a chamber for receiving the fluid medium, longitudinally inclined conduits concealed beneath said walk and connected with said chamber, and a plurality of laterally and forwardly inclined branches in each of said conduits in open communication with one side wall of the gutter, each of said branches being of smaller diameter than the diameter of its conduit, whereby the combined cross sectional area of the branches in each conduit is slightly less than the cross sectional area of their conduit, the outlets of the branches in each conduit being disposed at different positions with respect to each other throughout predetermined length of gutter for distributing the fluid medium therein to soften and liquefy the matter in the gutter and wash portions of the gutter in progressive sequence.

21. In apparatus of the character described, a series of cattle stalls having a common gutter open throughout its length, a fluid medium reservoir, a chamber divided into sections of unequal

areas, ports communicating with said sections for forming a leakage therebetween, and longitudinally inclined conduits connecting the sections and gutter, said sections and ports being adapted to automatically control the pre-flow, the sequence of flow and the pressure of the fluid medium in the conduits and gutter, whereby the fluid medium will automatically pre-puddle and flush the gutter throughout its length by the continuous sequence of operation of the several conduits.

JOHN W. BOGERT.

Sept. 1, 1942. H. O. C. INGRAHAM 2,294,781

STALL AND STANCHION FOR DAIRY BARNS

Filed May 21, 1941

Fig. 1

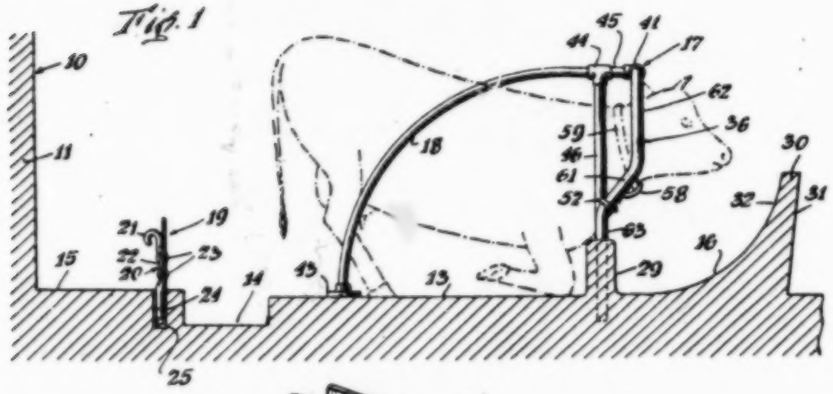

Fig. 2

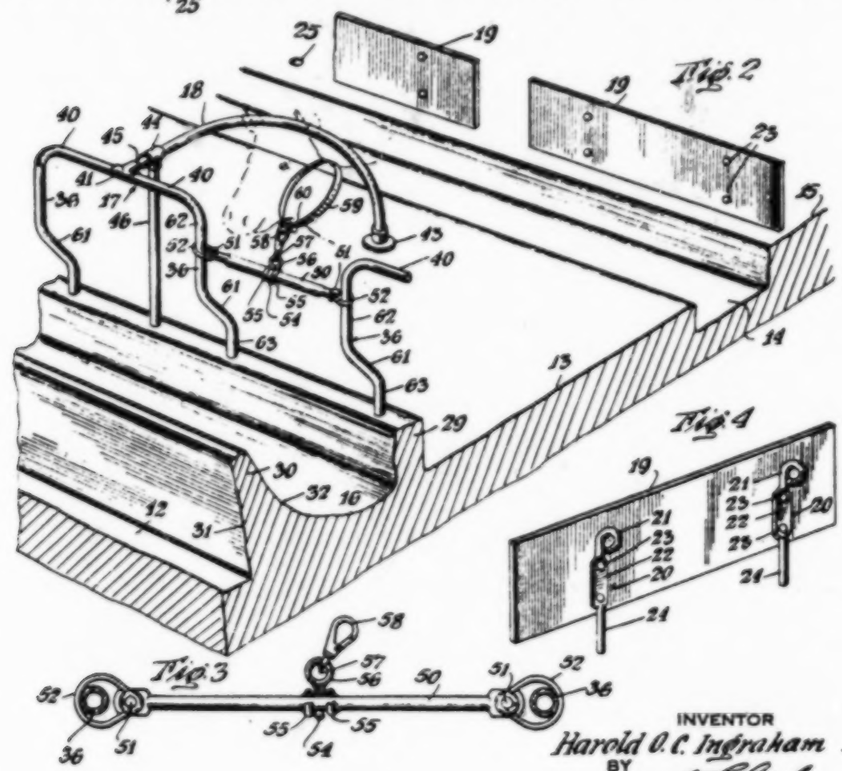

Fig. 4

Fig. 3

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2,294,781

STALL AND STANCHION FOR DAIRY BARNS

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Application May 21, 1941, Serial No. 394,414

3 Claims. (Cl. 119—119)

The present invention relates to dairy barns, and more particularly to a stall and stanchion therefor.

One object of the present invention is to provide a dairy barn having new and improved features of construction.

Another object is to provide a stall so constructed and arranged as to hold the cow in proper position, well up in the stall toward its manger and away from the litter aisle.

Another object is to provide a stanchion having novel and improved features of construction.

Another object is to provide a stanchion so designed as to limit the rearward movement of the cow, and to follow the normal movement of the cow while lying down or getting up.

Various other objects of the invention will be apparent from the following particular description, and from an inspection of the accompanying drawing, in which

Fig. 1 is a fragmentary vertical section through a stall embodying the present invention.

Fig. 2 is a fragmentary perspective of the stall shown in Fig. 1.

Fig. 3 is a detail view of a stanchion embodying the present invention, and

Fig. 4 is a perspective view of a removable shield, adapted to be positioned rearwardly of the litter gutter to prevent spreading of the litter from said gutter to the litter deck or aisle.

In the specific form of the invention shown, the dairy barn 10 is provided with side walls 11, and with two opposed rows of adjoining stalls extending the length of the barn and separated by a feed aisle 12. Extending lengthwise of the barn on each side of the feed aisle 12 is a manger 13, a stall floor 13, a litter gutter 14, and a litter aisle or deck 15 between the barn wall 11 and said gutter 14. A stanchion 17, to be hereinafter described, confines the cows in their individual stalls, and includes curved bracing rods or pipes 18, defining the sides of said stalls.

One difficulty commonly encountered in dairy barns of the above type is the tendency of the cow to step back upon the litter aisle 15 instead of standing in proper position in the stall. This tendency is increased by the standard practice of building the litter aisle lower than the stall floor and, in the case of chain stanchions, by allowing a considerable freedom of movement for the cow.

In accordance with the present invention, I provide a stanchion, which holds the cow well up toward the manger while in standing position. I also build the litter aisle on a higher level than the stall floor, so as to provide a rear gutter wall suited to confine the litter to the gutter, and provide a shield to further prevent the litter from falling or splashing onto the litter aisle. I have found, for instance, that the litter is more completely confined to the gutter by making the litter aisle 15 about two inches higher than the stall floor 13. This has the additional advantage of reducing the tendency of the cow to step back on to said aisle, because a cow dislikes to stand with her hind feet at a higher elevation than her front feet.

Fur further aid in preventing the spreading of the litter from the gutter 14 on to the aisle 15, a shield 19 is provided in the back of each stall sufficiently close to the gutter to prevent the cow from standing on the ledge between the shield and the gutter. The shield may be made of any suitable material, and may comprise a rectangular metal plate having rigidly secured to one side thereof a pair of brackets 20, each bracket being formed from a round bar, and having its upper end curved to form a finger loop 21, and its intermediate section 22 flattened for easy rigid attachment to the shield 19 by suitable fastening means, shown as rivets 23. The lower end section 24 of each bracket 20 projects downwardly beyond the lower edge of the shield plate 19 for free entry into a hole 25 provided in the litter aisle 15.

The attendant can easily mount the shield 19 in position shown in Figs. 1 and 2 by supporting said shield through the finger bracket loops 21, while lowering said shield to effect entry of the lower projecting bracket sections 24 into the corresponding aisle holes 25. These holes 25 are deep enough to permit seating of the lower edge of the shield plate 19 on said aisle, as shown in Figs. 1 and 2. A row of such shields extends along the litter aisle in back of the various stalls. The ends of adjacent shields may be spaced for convenience in handling.

In mounted position, the shields 19 prevent spreading of the litter from the gutter 14 on to the aisle 15. At the same time they act as a barrier obstructing rearward movement of the cow towards the aisle 15. When it is desired to clean the aisle 15, the shield 19 is easily removed to permit sweeping or shoveling of the litter from said aisle into the gutter 14.

The shield plate 19 may be of any suitable size for the purpose set forth. For instance, I have

found that a plate about twelve inches high is satisfactory for the purpose described.

The manger 16 is preferably in the form of a trough, having an inner wall 29 of substantially rectangular cross-section, serving as a curb for the stall floor 13, and an outer wall 30 substantially higher than said inner wall. The outer side 31 of the wall 30 is substantially vertical, while its inner side 32 curves downwardly and rearwardly towards the stall floor level to receive the feed.

As another feature of the present invention, the stanchion 17 is designed to effectively confine the movement of the cow without impeding her freedom of movement necessary for feeding or for lying down. For that purpose the stanchion support comprises a pair of spaced posts 36, which are preferably of tubular construction, and which have their lower ends imbedded in the manger wall 29. The upper end section 40 of each post 36 extends substantially horizontally, and connects into a branch of a T 41, the other branch being connected to the similar post structure of an adjoining stall. The bracing rod or pipe 18, preferably of tubular construction, has threaded or secured to its lower end a flanged collar 43 fixed to the stall floor by bolts or other suitable means, and has its upper end connected to a branch of a T 44. The other branch of this T 44 is connected to the stem of the T 41 by a nipple 45. An upright prop 46, preferably of tubular construction, has its lower end imbedded in the manger wall 29, and its upper end connected to the T 44.

In accordance with my invention I provide a bar stanchion 50, extending between the posts 36, and freely slidable therealong to permit up and down movement of the cow's head. This bar stanchion 50 is preferably made of tubular stock, and has its ends flattened and formed with respective holes to receive rivets or bolts 51. A collar 52, preferably in the form of a bent rod, is firmly secured to each end of the bar stanchion 50 by the bolts 51. The ends of said rod 52 may be bent to form eyes suited to receive said bolts. These collars 52 loosely encircle the respective posts 36, and thereby permit free slidable movement of the bar stanchion 50 along said posts.

For fastening the cow to the bar stanchion 50, there is provided a rotatable collar 54, loosely encircling the middle of said bar stanchion, and retained against axial movement therealong by a pair of bosses 55 affixed to said bar. The collar 54 carries a ring 56 to which is connected the eye 57 of a snap swivel 58. The snap swivel 58 is free to rotate about the eye 57 in response to movement of the cow's head.

The cow is provided with a halter or neck band 59 carrying a ring 60 into which the snap swivel 58 is snapped. The bar stanchion thus hangs from the cow's neck and slides vertically on the posts in response to corresponding movement of the cow. However, the connection between the halter 59 and the bar stanchion 50 is such as to afford only a limited forward and backward movement of the cow, and thereby holds the cow well forward in the stall.

A cow's body moves rearwardly a slight distance when lying down from a standing position and, when rising, moves forwardly about the same amount. I have found that this distance averages, for cows of various sizes, about 6½ inches. In order to provide ample freedom for this movement, I provide the stanchion posts 36 with offsets 61, inclined upwardly and forwardly of the stall between substantially vertical sections 62 and 63. The offsets 61 may begin at a height of about 16 inches above the stall floor, and extend to about 25½ inches above the stall floor, and are inclined to bring the sections 62 about 6½ inches ahead of the sections 63. The above dimensions, however, are only representative, and have been found satisfactory in a particular instance.

When the cow is standing, the bar stanchion 50 will extend between the upper forward vertical sections 62 of the posts 36. When the cow lies down, the bar stanchion 50 slides downwardly and rearwardly along the inclined offset sections 61 to the lower vertical sections 63 of the posts 36. When the cow rises from lying position, the movements of the bar stanchion will be reversed from that described.

By providing the inclined stanchion posts as above described, the bar stanchion 50 follows the natural movement of the cow without unduly restricting the same, but at the same time holds the cow in the desired forward position in the stall. This, in combination with the raised litter aisle 15 and the shields 19, ensures the disposal of the litter in the gutters 14, and maintains the litter aisle 15 substantially clear, an important feature in modern dairies supplying the better grades of milk, which are subject to rigid sanitary regulations.

As many changes may be made in the above design, and many apparently different embodiments of this invention may be made without departing from the scope of the claims, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense. The invention is only to be limited in accordance with the following claims.

What is claimed is:

1. A stall of the class described comprising a pair of spaced stanchion posts adapted to receive the head of a cow therebetween, a rigid bar stanchion extending between said posts and slidable thereon, a collar loosely mounted on said bar for rotational movement about the axis of said bar, bosses on said bar on opposite sides of said collar forming stops to confine said collar against axial movement, and a snap member being adapted to releasably engage a cow's halter for limiting the forward and rearward movement of the cow.

2. A stall of the class described comprising a pair of spaced stanchion posts, a rigid bar stanchion extending between said posts and slidable thereon, a member carried by said bar stanchion and adapted to be connected to a cow's halter, each of said posts having a lower vertical portion positioned to receive said stanchion when the cow is lying down, and an upper vertical portion to receive said stanchion when the cow is standing, said upper vertical portion being offset forwardly from said lower vertical portion by a distance corresponding to the normal forward movement of a cow in rising from lying to standing positions, said posts having an inclined intermediate portion joining said upper and lower vertical portions and positioned to guide the stanchion therebetween in a path corresponding to the forward and vertical movement of the stanchion required to accommodate the normal movement of the cow in rising.

3. A stall of the class described comprising a pair of spaced stanchion posts adapted to receive the head of a cow therebetween, a rigid bar stanchion extending between said posts and having eyes at its ends slidable on said posts, a collar loosely mounted on said bar for rotational movement about the axis of said bar, bosses on said bar on opposite sides of said collar forming stops to confine said collar against axial movement, and a member connected to said collar and constructed and arranged to attach said collar to a cow's halter for limiting the forward and rearward movement of the cow.

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Oct. 12, 1954 E. A. ANSTISS ET AL 2,691,359

MOVABLE FENCE SECTION FOR CORRALS

Filed March 23, 1950 2 Sheets-Sheet 1

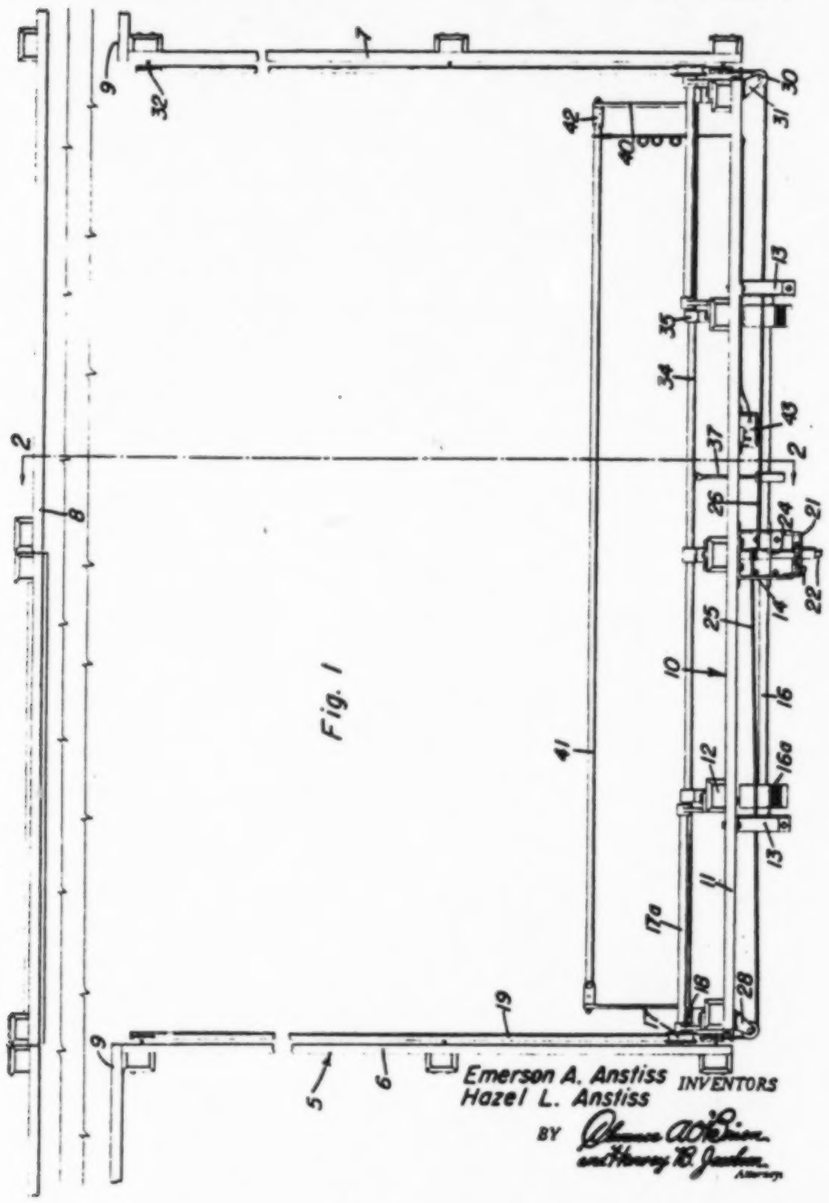

Fig. 1

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MOVABLE FENCE SECTION FOR CORRALS

Filed March 23, 1950 2 Sheets-Sheet 2

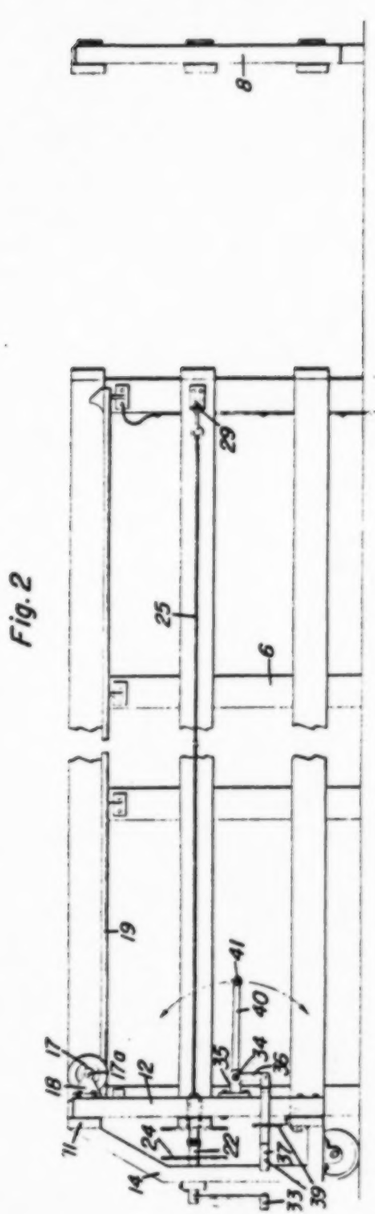

Fig. 2

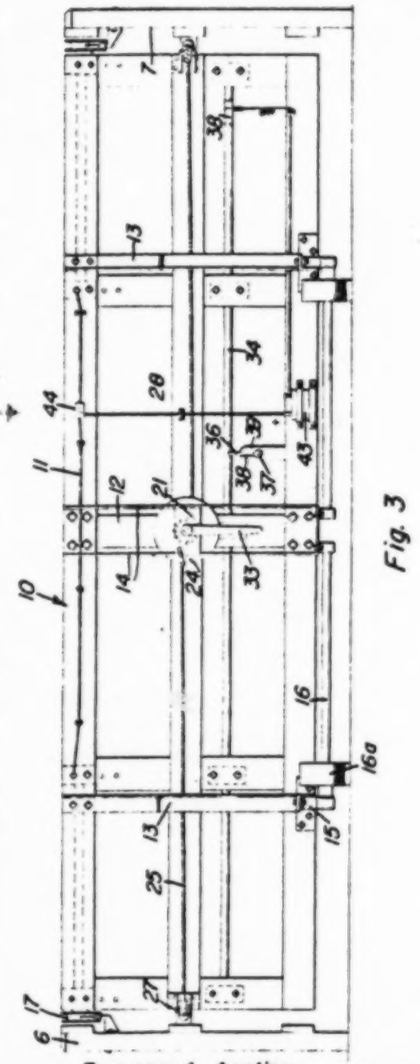

Fig. 3

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Patented Oct. 12, 1954 2,691,359

UNITED STATES PATENT OFFICE

2,691,359

MOVABLE FENCE SECTION FOR CORRALS

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Application March 23, 1950, Serial No. 151,468

1 Claim. (Cl. 119—20)

1

The present invention relates to new and useful improvements in corrals and more particularly to a movable fence section for the corral to remove animals from the corral without necessitating a cattleman entering the corral.

In many instances when raising or otherwise handling stock it is necessary to collect the stock in a corral and then to move the stock singularly through a chute for loading, branding, vaccinating, or for other purposes and this work is difficult and sometimes dangerous as it usually necessitates one or more stock handlers to enter the corral to keep the stock moving.

Accordingly, it is an object of the present invention to provide a movable fence section for the corral which will force the stock toward the chute and out of the corral as the movable fence section is moved in that direction to thus avoid the objectionable procedure explained above.

A further object of this invention is to equip the movable fence section of the corral with an electrically charged wire or rod to prod the animals and to keep the same from collecting against the movable fence section.

A still further object is to provide an apparatus of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a view in elevation of the outside of the movable fence section.

Referring now to the drawings in detail wherein for the purpose of illustration we have disclosed a preferred embodiment of the invention the numeral 5 designates a corral generally which includes a pair of side fence sections 6 and 7, a stationary end fence section 8 and chutes or runways 9 at the corners of the side and stationary end sections 6, 7 and 8.

The remaining end of the corral is closed by a movable fence section designated generally at 10 that is constructed to provide horizontal rails 11 and uprights 12 forming a rigid fence section or frame.

A pair of vertical brackets 13 are secured at

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the rear of the movable fence section 10 adjacent its ends and a pair of vertical brackets 14 are also secured at the rear of movable fence section 10 at its center, each bracket having a bearing bracket 15 at its lower end in which axles or shafts 16 are journalled with wheels 16a rotatable thereon.

Grooved wheels or rollers 17 are rotatably supported on shafts 17a in brackets 18 at the upper end portions of the movable fence section 10 and which travel on tracks 19 secured to the inside of the stationary side fence sections 6 and 7 of the corral, the wheels or rollers 17 supporting the upper edge of the movable fence section 10 while the wheels 16a travel on the ground to support the main weight of the movable fence section.

A bearing bracket 21 is secured to brackets 14 for one end of a shaft 22 which has its other end journalled in an adjacent rail of the movable fence section 10. Shaft 22 is provided with flanges 24 forming a drum or winch to which one end of a pair of cables 25 and 26 are attached for winding on the drum.

Cable 25 extends toward the left of movable fence section 10 and around a pulley 27 rotatably supported in a bracket 28 at the left hand edge of the movable fence section 10, the cable then extending along the inside of stationary fence section 6 and attached to a bracket 29 adjacent one of the chutes 9. The other cable 26 extends toward the right hand side of movable fence section 10 and also around a pulley 30 journalled in a bracket 31 secured to the right hand edge of the movable fence section and thence along the inside of stationary fence section 7 for also attaching to a bracket 32 at the adjacent chute 9.

The outer end of shaft 22 is provided with a crank handle 33 for winding the cables 25 and 26 on the shaft to pull movable fence section 10 inwardly toward stationary fence section 8.

A shaft 34 is rockably supported in bearing brackets 35 at the inside of movable fence section 10, the shaft 34 extending from end to end of the movable fence section and is provided with a downwardly extending arm 36 to which the inner end of a push and pull lever 37 is pivotally attached and which extends outwardly of the movable fence section for rocking the shaft. Lever 37 is supported in a notch 38 at the upper end of a bracket 39 to prevent the lever from dropping downwardly. Arms 40 also extend from shaft 34 at the inner side of movable fence section 10 for supporting a horizontal electrically charged rod or wire 41 in a vertically swingable position. Insulators 42 connect the ends of rod

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41 to the arms. The charged rod or wire 41 is connected to a battery 43 supported on movable fence section 10 or to other suitable source of current. The battery is grounded by way of shafts 17a, wheels 17 and tracks 19 and is controlled by a switch 44. Rod 41 is raised or lowered by lever 37 in accordance with the height of the animals confined in the corral to prod the animals and move them toward the exit 9 as the movable fence section travels in that direction.

Movable fence section 10 is supported on wheels 16a and 17, the latter traveling on tracks 19 and by winding cables 25 and 26 on winch 22 the movable fence section is pulled toward chutes or runways 9 to force cattle from the corral. The charged rod or wire 41 will prevent the cattle from crowding against the movable fence section.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claim.

Having described the invention, what is claimed as new is:

A corral comprising a pair of stationary opposed side fence sections and a stationary end fence section, an exit for the corral adjacent the stationary end fence section, a movable fence section composed of horizontal rails and uprights, wheels journaled at the lower portion of the movable fence section for movement of the latter back and forth between the side fence sections and

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relative to the stationary end fence section to move animals in the corral toward the exit, a winch rotatably supported on the outside of the movable fence section, cables secured to the winch for winding thereon and extending from the winch toward opposite sides of the corral and around the opposite ends of the movable fence section and extending therefrom longitudinally along the stationary side fence sections and attached thereto at a point adjacent the stationary end fence section, rails supported on the inside of the stationary side fence sections, wheels journaled on the upper end portions of the movable fence section for traveling on the rails to support the movable fence section upright during its traveling movement, a horizontal shaft journaled on the movable fence section, an arm fixed to the shaft and projecting inwardly of the corral, an electrically charged prodding bar fixed to the free end of the arm and positioned parallel to the movable fence section, a crank arm fixed to the shaft, and a handle secured to the crank arm and projecting rearwardly through the movable fence section for vertically adjusting the prodding bar.

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RÉPUBLIQUE FRANÇAISE

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BREVET D'INVENTION

P.V. n° 812.934 — N° 1.246.418

Classification internationale : — A 01 *k*

Installation d'enlèvement du fumier par courant d'eau.

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Société dite : MASCHINENFABRIK A. HOLZ KG résidant en République Fédérale Allemande.

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L'invention a trait à une installation d'enlèvement du fumier par courant d'eau.

Son but est de monter cette installation de manière à obtenir une économie de main-d'œuvre, aussi grande que possible, dans l'enlèvement du fumier des étables, avec la dépense la plus faible en frais d'installation de l'équipement de celle-ci. Elle a en outre pour but de permettre l'épandage du fumier préparé sur les champs, par la pluie ou autrement.

On connaît des équipements pour l'enlèvement du fumier par courant d'eau, comprenant des fosses de mélange avec agitateurs et désintégrateurs, réservoirs d'entreposage et canalisations, permettant de régler la concentration du fumier avant son enlèvement ou son émiettement par la pluie. Une rigole d'écoulement est également prévue. L'inconvénient de ces installations est qu'il n'existe aucune coordination précise entre la conception de l'étable, la rigole d'écoulement et l'équipement de préparation du fumier. De grandes quantités d'eau, par exemple, doivent ainsi être amenées dans la rigole d'écoulement quand, de temps à autre, les excréments doivent être poussés dans celle-ci, sur une distance plus ou moins grande.

Le problème à résoudre par l'invention est d'éviter ces inconvénients et de construire l'installation de manière à économiser la main-d'œuvre et en même temps préparer le mélange fumier eau, sous une forme particulièrement pratique et appropriée à son emploi comme engrais.

La solution suivant l'invention consiste à combiner à une stalle courte pour le bétail, un caillebotis possédant une partie supérieure élastique, pour recouvrir la rigole d'écoulement.

Suivant cette caractéristique, on adopte une stalle courte et non, comme on le fait d'habitude, une stalle moyenne ou longue, avec une rigole d'écoulement attenante. Cette stalle courte permet au fumier, aux ordures, et au purin de tomber directement dans la rigole et il suffit que celle-ci soit toujours remplie d'eau, au point que ce qui y tombe ne puisse s'y fixer. Il est essentiel que le caillebotis comporte une partie supérieure élastique, superposée à une partie inférieure rigide.

Quand on adopte une stalle courte, on doit compter que le bétail se trouve toujours sur le caillebotis. Afin d'éviter des blessures aux pattes, on pose sur celui-ci une partie élastique, à arêtes arrondies, afin que, quand le bétail passe dessus, il se trouve toujours sur des parties lisses élastiques et ne puisse se blesser à des bords tranchants.

Différentes possibilités existent pour la réalisation de la couverture élastique du caillebotis. On peut imaginer, par exemple, que la partie élastique reposant sur la partie rigide soit formée de pièces détachées rapportées.

Une forme d'exécution peut fort bien consister en ce que les parties élastiques rapportées, munies de pattes de deux côtés, entourent les parois de séparation du caillebotis et présentent, le cas échéant, une dépouille leur permettant, lors de la mise en charge, de s'appliquer sur celui-ci, et de se redresser lorsqu'on les décharge.

Afin qu'aucune obstruction ne se produise, lorsque les parties élastiques se rabattent, il est essentiel que celles-ci soient munies d'ouvertures d'écoulement vers le caillebotis sous-jacent, qu'elles recouvrent quand elles sont chargées.

En outre, il est indiqué que la face supérieure de la partie élastique destinée à recevoir la charge soit pourvue de nervures, de bossages, etc., pour empêcher le glissement.

Afin d'obtenir lors de l'emploi de matière synthétiques une élasticité suffisante, il est recommandable de munir les parties élastiques rapportées de parties métalliques enrobées, pour les fixer aux parties solides, et former le cas échéant un axe de rotation.

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Les parties élastiques peuvent en même temps être munies de points lumineux enrobés ou appliqués.

Une autre possibilité consiste à donner une forme en croix à ces parties rapportées, et à garnir les bords tranchants de la grille de surfaces de couvertures arrondies.

Une telle construction empêche les parties rapportées de basculer dans l'une ou l'autre direction, lorsqu'elles sont mises en charge, car il y a toujours d'autres bords, augmentant la résistance au renversement, perpendiculaires à ceux qui basculeraient éventuellement. Afin d'obtenir une élasticité suffisante, pour autant qu'on utilise des pattes rapportées, il est important que celles-ci dépassent sous le grillage et soient munies d'éléments de liaison bien connus, pour se chevaucher, se plier, se rabattre, afin de conférer aux parties surmontant le grillage l'élasticité voulue.

On doit compter qu'en employant des matières synthétiques, les parties surmontant le grillage ne se redressent plus, par suite du vieillissement. Quand la partie rigide, ou le grillage est entouré de tous côtés, c'est-à-dire, après l'application des parties élastiques rapportées, les parties sont également attachées par en dessous, et comme elles sont déjà attachées par la face de support on obtient ainsi une plus grande stabilité de ces éléments élastiques. On doit compter en effet, qu'avec une stalle courte, le bétail se couche également sur des parties de la grille, et qu'en tout cas on doit éviter des blessures éventuelles au pis provoquées par des bords tranchants.

Quand le grillage est construit de manière appropriée et a des dimensions suffisantes pour absorber les mélanges d'ordures et d'urines, il est en outre important que la rigole d'écoulement soit fermée par un registre manœuvré à la main, avant son entrée dans la fosse de mélange du fumier.

Ce registre manuel est pratique, car l'écoulement doit se produire très rapidement, afin que tout ce qui se trouve dans la rigole soit entraîné par la vitesse du courant.

Une autre possibilité consiste à subdiviser une longue rigole à l'aide de plusieurs registres à main. Il est particulièrement opportun de faire déboucher dans la rigole d'écoulement les conduites d'eaux ménagères usées.

Afin de permettre un réglage précis de la concentration du fumier, il est important que la fosse soit équipée d'un dispositif d'agitation et de désintégration et que la citerne d'accumulation, raccordée par la canalisation et le registre, possède un agitateur. Le registre et le tuyau d'aspiration de la pompe, dont la distance au niveau du liquide est réglable permettent ainsi une circulation de liquide en circuit fermé, entre la fosse de mélange et la citerne.

Grâce à ce circuit fermé et au retour d'un mélange eau-fumier dans la rigole d'écoulement, il est possible d'obtenir une concentration de fumier quelconque.

Il est en outre opportun que la fosse de mélange ait une forme conique vers le bas, où sont logés l'agitateur et le désintégrateur, tandis que des palettes d'agitation, dont la distance à la surface du liquide est réglable, sont montées dans la citerne.

Un exemple de mise en œuvre de l'invention est représenté dans les dessins et d'autres caractéristiques de celle-ci ressortiront de ces derniers et de la description qui en sera faite. La figure 1 montre l'installation complète, consistant en stalles courtes, caillebotis et équipement de préparation du fumier, la stalle et le caillebotis se trouvant dans le même plan.

La figure 2 montre, vue de face, une forme d'exécution possible de pièces rapportées, en forme de croix, pour le caillebotis. La figure 3 est une coupe suivant la ligne I-I de la figure 2, vue en plan. La figure 4 montre un détail des pattes 27 opposées de la figure 3. La figure 5 indique, à côté du grillage, la possibilité de prévoir des parties élastiques rapportées dépassant le caillebotis. La figure 6 représente, les parties de la figure 5 renversées sous la charge, l'effort proprement dit exercé par le bétail n'étant pas indiqué.

Dans la figure 1, le bétail 1 se trouve dans une stalle courte 2, avec un caillebotis 3 attenant, qui recouvre la rigole d'écoulement 4. Le mélange eau-fumier passe, par le registre à main 5, dans la fosse de mélange 6 et de là, le cas échéant, dans la citerne-réservoir 7. Dans la fosse 6, se trouve un agitateur- désintégrateur 9. Dans la rigole d'écoulement peut aussi déboucher la conduite d'évacuation 10 des eaux ménagères usées. La caillebotis 3 consiste en une partie élastique supérieure 11 et une partie inférieure rigide 12.

Dans les figures 5 et 6, on a dessiné à côté du caillebotis, un élément constitutif de celui-ci; dans la figure 5, les parties élastiques supérieures sont redressées et dans la figure 6, ces parties, qui peuvent être des nervures en matières synthétiques, sont rabattues. Cette position ne peut résulter que de la charge imposée par les pattes des animaux debout.

Les figures 2, 3 et 4 montrent une pièce rapportée 24, en forme de croix, les surfaces de support 25 étant superposées au caillebotis 3. On a également indiqué schématiquement les pattes 27 dépassant le grillage.

Les points de croisement du caillebotis rigide sont maintenant recouverts et, en posant côte à côte plusieurs parties 24, en forme de croix on obtient un grillage pouvant supporter en permanence le bétail debout ou couché. Les pattes 26, qui, dans la figure 3, dépassent la largeur du caillebotis 3

peuvent être reliées entre elles par un recouvrement 27 comme le montre, dans la même figure, les petites branches de la croix. On obtient de cette façon une meilleure fixation sur le caillebotis.

Au lieu de ces recouvrements 27, il existe encore d'autres possibilités. On peut, par exemple, prévoir des bourrelets ou des trous où passent des boutons, etc.

Un moteur 13 commande l'agitateur-désintégrateur, et, en vue d'un épandage éventuel, un groupe moto-pompe 14 peut aspirer dans la citerne-réservoir un mélange eau-fumier et le refouler à l'extérieur, par la canalisation 16, vers l'installation d'arrosage. On peut également, au moyen d'un changement de réglage des vannes 17, 18 et 19, aspirer dans la fosse de mélange, par le tuyau d'aspiration 20. En outre, on peut aspirer dans le fond de la citerne-réservoir 7, par une vanne 21, dans le sens de la flèche 22, vers la fosse de mélange 6, puis de là, renvoyer le mélange dans le sens de la flèche 23 vers la citerne. De cette façon, on obtient une fragmentation du fumier présent dans celle-ci. Il est encore possible d'aspirer dans la cuve de mélange par le tuyau 20, réglable au niveau de la surface du liquide, pour envoyer celui-ci dans la rigole d'écoulement 4, afin d'augmenter la concentration du mélange, c'est-à-dire qu'on ne remplit plus la rigole d'eau claire, ou d'eau ménagère usée, mais qu'on prélève à un endroit approprié de la cuve une partie du mélange qui s'y trouve et qu'on la renvoie dans la rigole, afin d'augmenter sa concentration.

Le fonctionnement de l'installation est alors le suivant : le registre d'arrêt manuel 5 est fermé et la rigole, dont la pente est d'environ 1 à 2 %, est remplie d'eau ménagère usée, par l'ouverture d'une vanne se trouvant sous le tuyau de décharge jusqu'à recouvrir son point le plus élevé. Le remplissage de la rigole peut également se faire, comme indiqué ci-dessus, avec le mélange se trouvant dans la fosse, en modifiant le réglage des vannes. Le liquide traverse le caillebotis, les nervures en matières synthétiques, ou les parties élastiques se trouvant seulement dans la zone où passent les animaux. Ces nervures sont percées de trous ou de perforations afin de permettre en tout cas un écoulement facile à travers le caillebotis. Lorsque la rigole est suffisamment remplie, le registre à main 5 est fermé. Le mélange eau-fumier parvient à la fosse 6 et est désagrégé par l'agitateur-désintégrateur 8, puis envoyé, dans le sens de la flèche 23, vers la citerne-réservoir par le tuyau d'aspiration 20 après ouverture des vannes 17 et 19, la vanne 21 étant fermée. Lorsque le mélange doit être refoulé par la conduite 16, la prise dans la citerne se fait par le tuyau d'aspiration 15 et les vannes 19 et 18 ouvertes. On peut également prévoir un raccord au tuyau d'aspiration 20, et évacuer le mélange directement de la fosse de mélange dans des tonneaux à purin. Les palettes d'agitation 9 servent à éviter la formation de croûte de fumier, qui d'ailleurs peut être renvoyée dans le circuit indiqué par les flèches 22 et 23, en ouvrant les vannes 21, 17 et 19.

On peut indiquer, comme domaine d'utilisation de l'invention, toutes les possibilités d'installation d'un enlèvement du fumier par courant d'eau dans les étables, où les stalles courtes et les caillebotis permettent un grand nombre de combinaisons d'équipements correspondants tels que fosses de mélange avec ou sans citerne-réservoir.

RÉSUMÉ

Installation d'enlèvement de fumier par courant d'eau, consistant en une rigole d'écoulement, une fosse de mélange du fumier avec agitateur-désintégrateur, réservoirs et tuyauteries de raccordement permettant le réglage de la concentration du fumier avant la vidange ou l'arrosage remarquable notamment par les caractéristiques suivantes prises isolément ou en combinaisons :

Une stalle courte pour le bétail est reliée à un caillebotis, installé à l'endroit où stationne ce dernier, et recouvrant la rigole, celle-ci est barrée par un registre d'arrêt;

Le caillebotis consiste en une partie supérieure élastique et une partie sous-jacente rigide;

La partie élastique est formée de pièces détachées rapportées, posées sur la partie rigide, les pièces détachées sont cruciformes, et les bords tranchants de la grille présentent des surfaces portantes arrondies de couverture;

Les parties élastiques rapportées sont munies des deux côtés de pattes, entourant les parois de séparation rigides du caillebotis et présentant, le cas échéant, une dépouille, s'appliquant sur le caillebotis lorsqu'on les charge et se relevant lorsqu'on les décharge, dépassant sous le grillage et présentant des éléments de liaison connus, pour se chevaucher, se replier, se rabattre et conférer une élasticité satisfaisante aux parties élastiques surmontant le grillage.

Les parties élastiques rabattables possèdent des ouvertures d'écoulement vers les caillebotis rigides sous-jacents, recouverts lorsqu'ils sont chargés, et non ce qu'il existe des enrobages métalliques, pour la fixation aux parties rigides, formant éventuellement des axes de rotation, les parties élastiques formant la face supérieure possédant des points lumineux, enrobées ou rapportées :

La rigole d'écoulement est barrée par un registre manuel avant son entrée dans la fosse de mélange et les conduites d'évacuation des eaux ménagères usées débouchent dans la rigole;

La fosse de mélange du fumier est équipée d'un

dispositif agitateur-désintégrateur et la citerne-réservoir, raccordée par les tuyauteries de liaison, possède un agitateur; les vannes, le tuyau d'aspiration, dont la distance à la surface du liquide est réglable, et la pompe permettent l'établissement d'une circulation du liquide entre la fosse de mélange et la citerne-réservoir;

La fosse de mélange du fumier, a une forme conique vers le bas et possède un agitateur-désintégrateur, tandis que dans la citerne-réservoir sont installées des palettes d'agitation dont la distance à la surface du liquide est réglable;

La stalle courte et le caillebotis sont dans un même plan incliné vers ce dernier.

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Par procuration :

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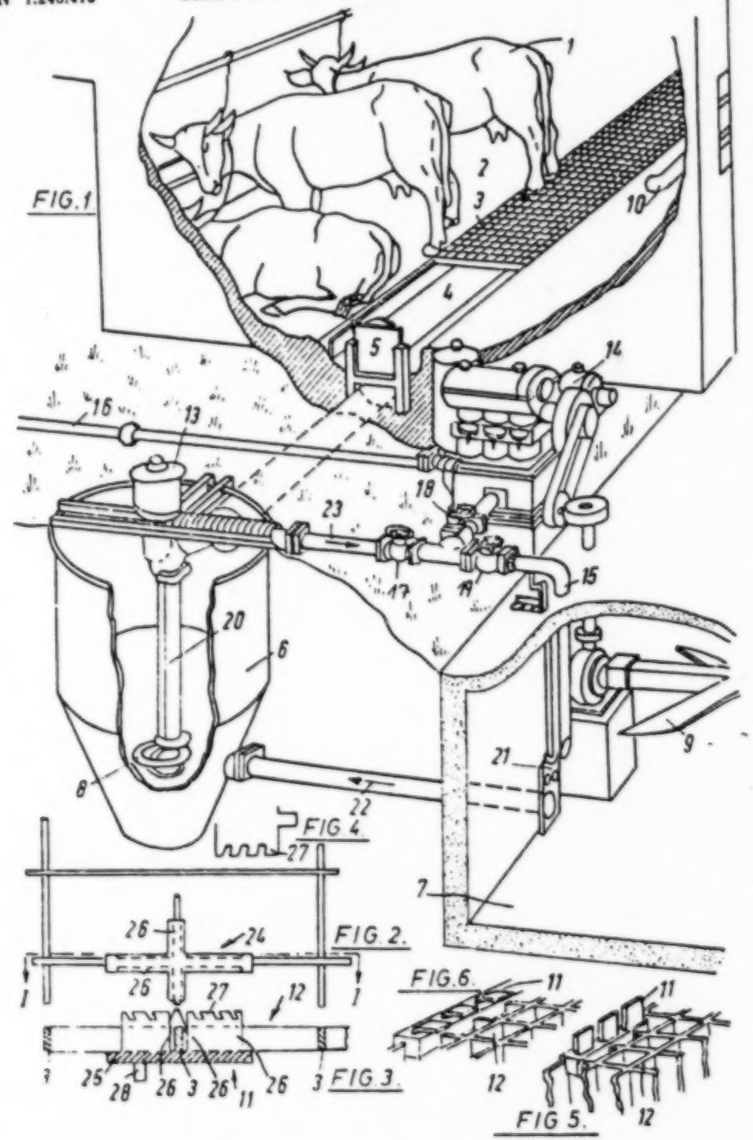

PATENT SPECIFICATION

DRAWINGS ATTACHED

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Index at acceptance: —Classes 86, C(1:2:18A2:18G5B:19X1:25); and 107, A.

International Classification:—B01f. E01c.

COMPLETE SPECIFICATION

Improvements in or relating to Manure Disposal Installations

We, OTTO HOEIZ and FRANZ HOEIZ, trading as the firm MASCHINENFABRIK A. HOEIZ K.G. of 14, Zeppelinstrasse, Wangen/Allgäu, Germany, both German nationals, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention concerns manure disposal installations.

The object of the invention is to provide an installation so that the maximum saving of labour in cleaning out animal houses such as cowsheds is achieved with minimum building and installation costs and, furthermore, to prepare the manure so that it can be sprinkled continuously over agricultural land or disposed of in some other manner.

According to the present invention a manure disposal installation comprises a drainage channel communicating with a mixing chamber having cutting and stirring means and a storage tank connected to the mixing chamber, a first, pipe being connected between the mixing chamber, storage tank and disposal means, and including valve means whereby the chamber can be selectively connected to either the tank or the disposal means, and including a further pipe connected directly between said chamber and tank.

The channel is preferably covered by a grid which lies flush with the floor surface of the stall, the grid including elastic members carried on the bars of the grid, such elastic members being cross-shaped and fitting over the bars of the grid. The said elastic members are preferably provided with downwardly extending flaps and upwardly extending lugs, the flaps extending on either side of the rigid bar members and interlocking with adjacent flaps and gripping the said rigid bars, while the upwardly extending lugs are adapted to yield resiliently when deflected by load, for example by being trodden on. Said lugs are adapted to resume their original shape and position as soon as any load applied to them is removed.

The drainage channel may be closable, at or near its discharge end, or additionally at intermediate points along its course, by means of a slide or slides, domestic waste water being arranged to be discharge into the channel.

The manure mixing chamber and the storage tank are preferably adapted at their lowest parts, by a pipe adapted to be closed by a slide valve, the said mixing chamber being provided with a stirring and cutting mechanism and with a suction pipe leading to a pump, the suction opening of the said pipe being adapted to be adjusted by various heights in the mixing chamber, the said pump being adapted by operation of suitable valving to deliver manure into a pipe for removal of the manure and sprinkling thereof over agricultural land. The manure mixing chamber is preferably of substantially conical shape at its lower part, tapering to a minimum diameter at its lowest point, and having the stirring and cutting mechanism arranged in the said lower part, whilst the storage tank is preferably provided with stirring blades.

When a short stall is used, it is to be expected that the animal will always stand on the grid. In order to avoid damage to the hooves, the grid is provided with elastic members as stated above so that when the animal steps on them, it always stands only on elastic smooth members and cannot be injured by any sharp edges of the grid.

In order to prevent blockage when the elastic members are deformed the deformable elastic members should have drainage apertures.

It is also advisable for the upper surface of the elastic members to have conventional grooves, humps and the like to prevent an

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animal slipping when the upwardly extending lugs are deflected.

When the elastic members are formed from synthetic materials it is advisable for the members to have metal mountings for attachment to the rigid bar portions of the grid. The members may be hinged to the bars of the grid.

The elastic members may have luminescent substances embedded therein or applied thereto.

The attachable elastic members may be of cruciform shape and the edges of the bars of the grid may have rounded bearing surfaces.

The grid must be suitably constructed and the spacing of the bars must be sufficient to allow quantities of solid and liquid manure to pass into the trough and it is also important that the trough should be closable by a hand-operated slide before it runs into the manure mixing pit.

This hand-operated slide is advisable so that the discharge can be very rapidly effected so that, due to the high flow speed, all substances in the trough are carried away.

It is particularly advisable for the drainage pipes of the domestic waste waters to empty into the flushing channel.

The invention will be described further, by way of example, with reference to the accompanying drawings, in which:—

Fig. 1 is a perspective view of the entire installation consisting of a short stall, grid and manure treatment installation, the floor of the short stalls and the grid forming a continuous plane;

Fig. 2 is an enlarged underneath view of part of the grid shown in Fig. 1 and an elastic covering for part of the grid;

Fig. 3 is an inverted sectional view on the line I—I of Fig. 2;

Fig. 4 shows an alternative form of elastic member for the grid provided with a portion which extends beyond the upper surface of the grid; and

Fig. 5 shows the upwardly extending portions of Fig. 4 in a position in which they have been deflected.

In Fig. 1, the cow 1 is standing in a short stall 2 behind which a grid 3 is arranged. This grid 3 is formed from intersecting bars and covers the channel or trough 4. By way of the hand-operated slide 5, a dung-and-water mixture passes into the manure mixing pit 6 which is conical at its lower part, and from there, if desired, into the storage tank 7. Located in the mixing pit 6 is a stirring and cutting mechanism 8, while the storage tank 7 is provided with stirring blades 9. The waste-pipe 10 of the domestic waste water may also flow into the trough 4. The grid 3 comprises upper elastic members 11 supported on rigid bars 12 as shown in Figs. 4 and 5.

Figs. 4 and 5 show, in addition to the grid, one form of elastic members 11, Fig. 4 showing some of the members 11 in the vertical position and Fig. 5 showing some of the elastic members 11 in a turned-over position. The elastic members 11 can however only be turned over by loading, that is to say, by the hooves of the animals standing thereon, and they serve to prevent hooves of the animals becoming trapped between the bars 12.

As shown in Figurs 2 and 3 the crossing points of the rigid grid are covered by a number of cruciform members 24 and the grid is made suitable for cattle to stand or lie on permanently. The members 24 have surfaces 25 which rest on the top of the bars 12 of the grid 3 and attached to the surfaces 25 are flaps 26 which, as shown in Figure 3, engage on each side of the bars 12 of the grid member 3. The flaps 26 are locked together on the underside of the grid member by having the flaps 26 on one side of a bar 12 interlocking with the flaps 26 on the adjacent transverse bar 12 of the grid member. Elastic members 28 may be provided on some of the members 24. The elastic members 28, like the elastic members 11, serve to prevent the hooves of an animal becoming trapped between the bars 12 of the grid 3. The elastic members 11 also have holes and perforations, so that they may permit of a good flow through the grid.

The stirring and cutting mechanism 8 is driven by a motor 13 which also drives a pump. A pump 14, provided, which is adapted to suck through a suction pipe 15 the water-and-dung mixture out of the storage container 7 and to expel it through a pipe 16 leading to a sprinkling installation (not shown). However, by suitably adjusting a number of valves 17, 18, 19 the pump driven by the motor 13 can be arranged to suck out of the mixing pit 6 through a suction pipe 20 and pipe 23'. By adjustment of a slide 21, it is possible for the pump driven by the motor 13 to suck manure from the bottom of the storage container 7 through the pipe 22' and to deliver it to the mixing pit 6 in the direction of the arrow 22, whence it is conveyed once again through the pipe 23' in the direction of the arrow 23 back into the storage container 7. Thus the manure in the storage tank 6 and the mixing pit 7 can be comminuted in this manner.

A connector may be attached to the suction pipe 20 so that a line may be provided, for drawing off manure directly from the manure mixing pit 6 into liquid manure vats not shown). The object of the stirring blades 9 which are driven by the motor of the pump 14 is to prevent the formation of a covering layer of scum on the mixture within the container 7.

The mode of operation is as follows:—

The hand-operated slide 5 is closed, and the trough 4 is filled from the wastepipe 10, by opening a valve in the house, until the highest point of the trough, which is arranged at an incline is covered by the liquid. When the trough is sufficiently full, the hand-operated slide valve 5 is opened. The manure and water mixture then flows into the mixing pit 6 and is mixed there by the stirring and cutting mechanism 8. The motor 13 is operated to drive its pump to suck the mixture up through the pipe 20 and introduce it into the storage tank 7 through the pipe 15, in the direction of the arrow 23, the valve 18 being closed and the valves 17, 19 being opened. The slide 21 at this time is fully closed. Removal of the mixture from the storage container 7 is effected by opening the slide 21 and valves 17, 18 and closing the valve 19 and then operating the pump 14, the mixture being sucked through the pipe 22' and suction pipe 20. This manure and water mixture is forced into the pipe line 16 and conveyed to the sprinkler. By opening the slide 21 and the valves 17 and 19, the mixture can be circulated by the pump driven by the motor 13 in the direction of the arrows 22, 23 through the pipes 22', 20 and 23' and 15.

WHAT WE CLAIM IS:—

1. A manure disposal installation comprising a drainage channel communicating with a mixing chamber having cutting and stirring means and a storage tank connected to the mixing chamber, a first pipe being connected between the mixing chamber, storage tank and disposal means and including valve means whereby the chamber can be selectively connected to either the tank or the disposal means, and including a further pipe connected directly between said chamber and tank.

2. A manure disposal as claimed in Claim 1, in which the open portion of the channel is covered by a grid.

3. A manure disposal installation as claimed in Claim 2 in which the grid is provided with deformable elastic members carried on rigid members of the grid.

4. A manure disposal installation as claimed in Claim 2 or 3, in which some of the bars of the grid are covered by elastic members which are cross-shaped and fit over the bars forming the grid.

5. A manure disposal installation as claimed in Claims 3 or 4, in which the elastic members are provided with downwardly extending flaps and upwardly extending lugs, the flaps extending on either side of the rigid bar members and interlocking with adjacent flaps and gripping the said rigid bars, said upwardly extending lugs being adapted to yield resiliently when deflected by load and to resume their original shape and position as soon as any load applied to them is removed.

6. A manure disposal installation as claimed in any one of Claims 2 to 4 in which the upwardly extending lugs of the elastic members, when bent over by the application of weight thereto cover adjacent drainage apertures provided in the said elastic members and spring back into their original shape and position when such weight is removed therefrom.

7. A manure disposal installation as claimed in any of the preceding claims, in which the drainage channel is closable, at or near its discharge end, or additionally at intermediate points along its course, by means of a slide or slides, domestic waste water being arranged to be discharged into the drainage channel.

8. A manure disposal installation as claimed in any of the preceding claims, in which the manure mixing chamber and the storage tank are connected, at their lower parts, by the second pipe which is adapted to be closed by a slide valve, the said mixing chamber being provided with a motor driven stirring cutting mechanism and with a suction pipe leading to a pump, the suction opening of the said pipe being adapted to be adjusted to various heights in the mixing chamber, the said pump being adapted to deliver manure into a pipe for removal of the manure, and sprinkling thereof over agricultural land.

9. A manure disposal installations as claimed in Claim 8, in which the manure mixing chamber is of substantially conical shape at its lower part, tapering to minimum diameter at its lowest point, the stirring and cutting mechanism being arranged in its lower part, whilst the storage tank is provided with stirring blades.

10. A manure disposal installation as claimed in any of the preceding claims, in which the upper surface of the elastic upper portion of the grid is flush with the floor surface of the stall.

11. A manure disposal installation, constructed and arranged to operate substantially as herein described, with reference to and as illustrated in the accompanying drawings.

POTTS & CO.

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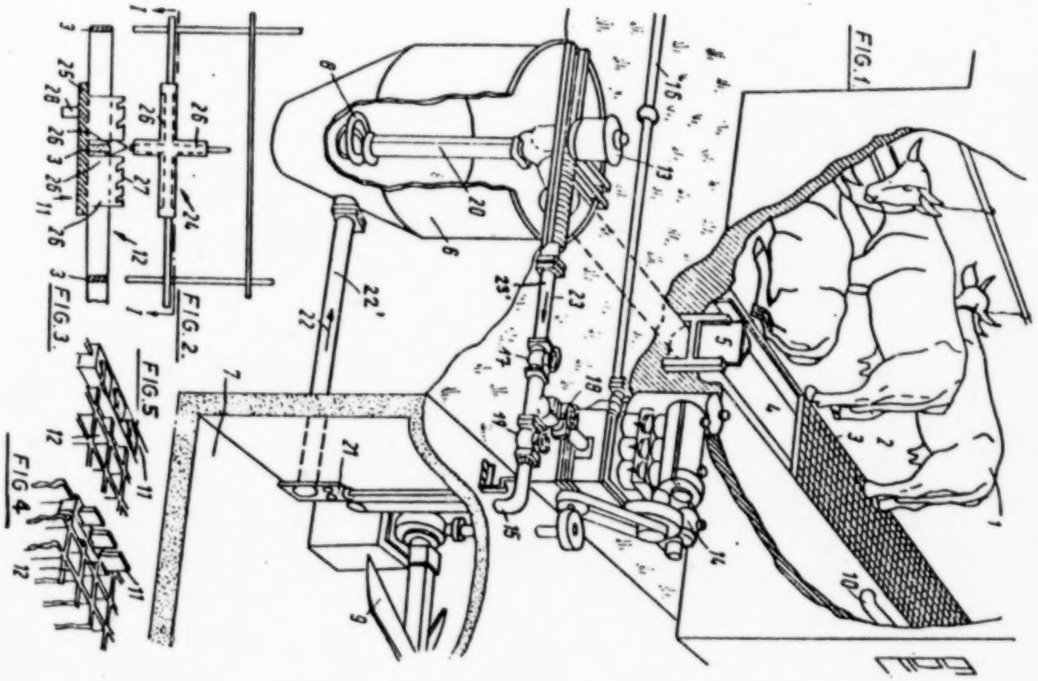


FIG. 1

FIG. 2.

FIG. 3.

FIG. 5

FIG 4

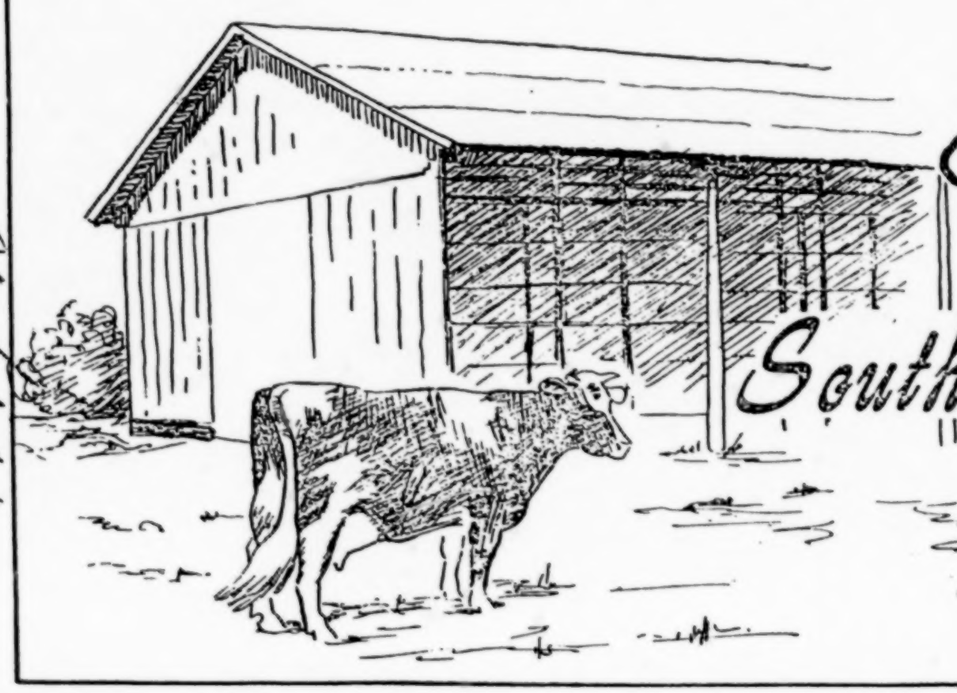
914649 COMPLETE SPECIFICATION
1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

100.

EXTENSION AGRICULTURAL ENGINEERING HANDBOOK NO. 2

CATTLE SHELTERS & EQUIPMENT

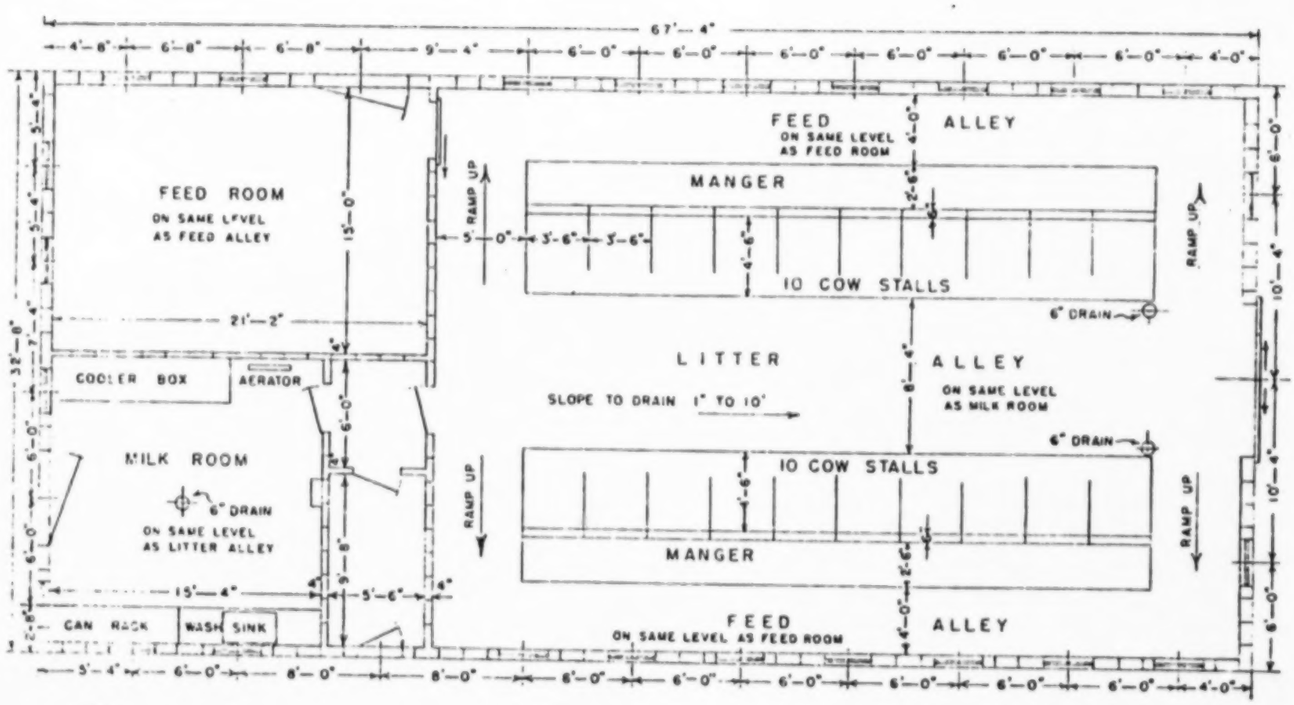
for



South Carolina

CLEMSON AGRICULTURAL COLLEGE COOPERATING WITH
UNITED STATES DEPARTMENT OF AGRICULTURE
EXTENSION SERVICE, GEO. B. NUTT, DIRECTOR
CLEMSON, SOUTH CAROLINA

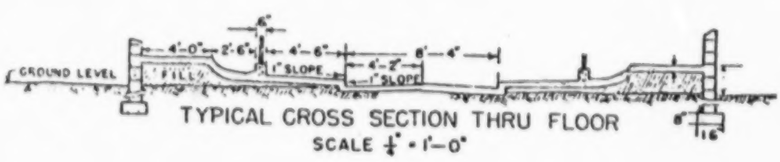
DEC. 1958



NOTE

IF HIGH BACK FEED MANGER AS ILLUSTRATED ON PAGE 32 IN CIRCULAR 307 IS USED, ENTIRE FLOOR AREA IS ON SAME PLANE

FLOOR PLAN
SCALE $\frac{1}{4}$" = 1'-0"

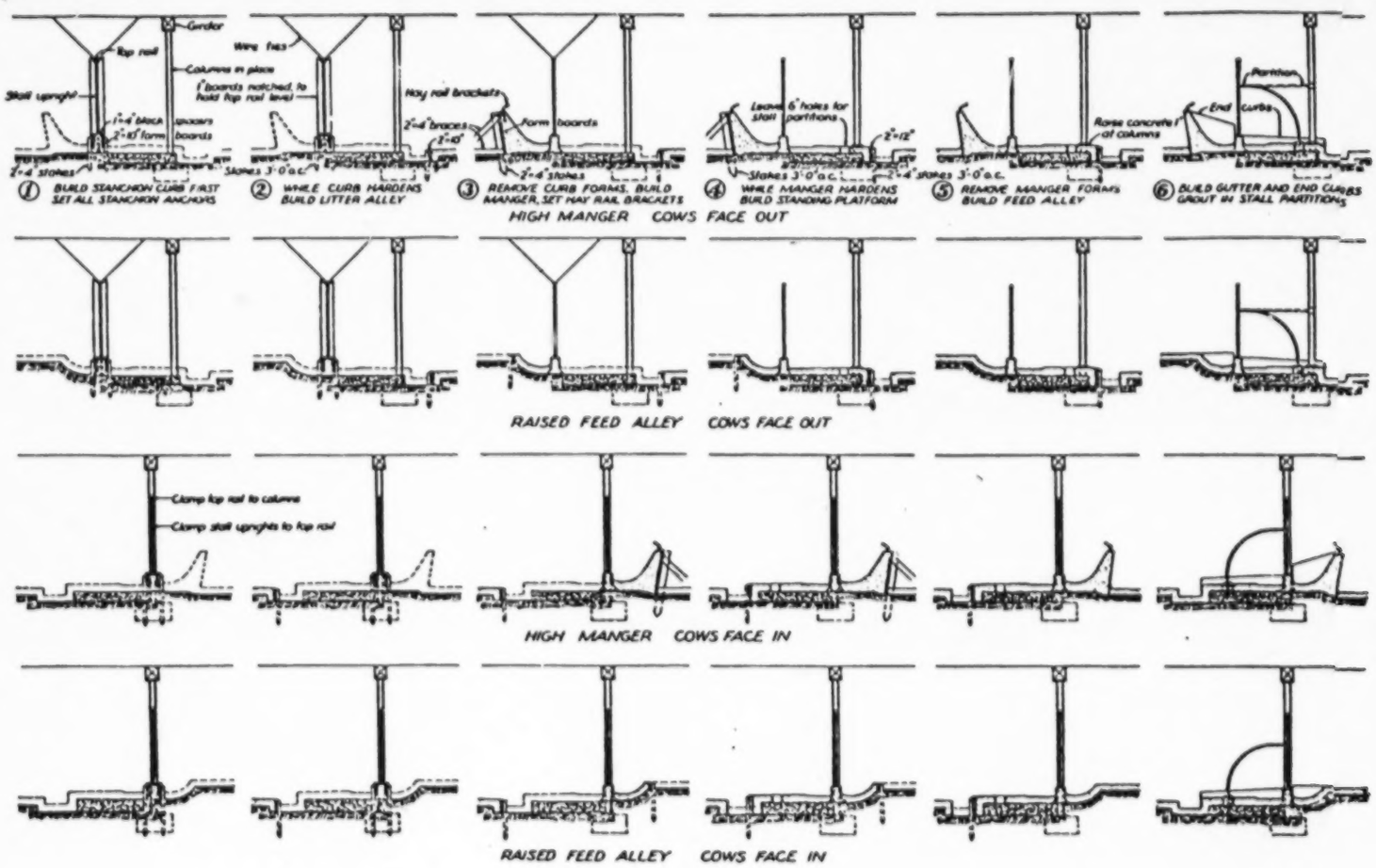


TYPICAL CROSS SECTION THRU FLOOR
SCALE $\frac{1}{4}$" = 1'-0"

WHOLESALE PRODUCER
20 COW DAIRY BARN
PLAN NO. 139

102.

21



103.

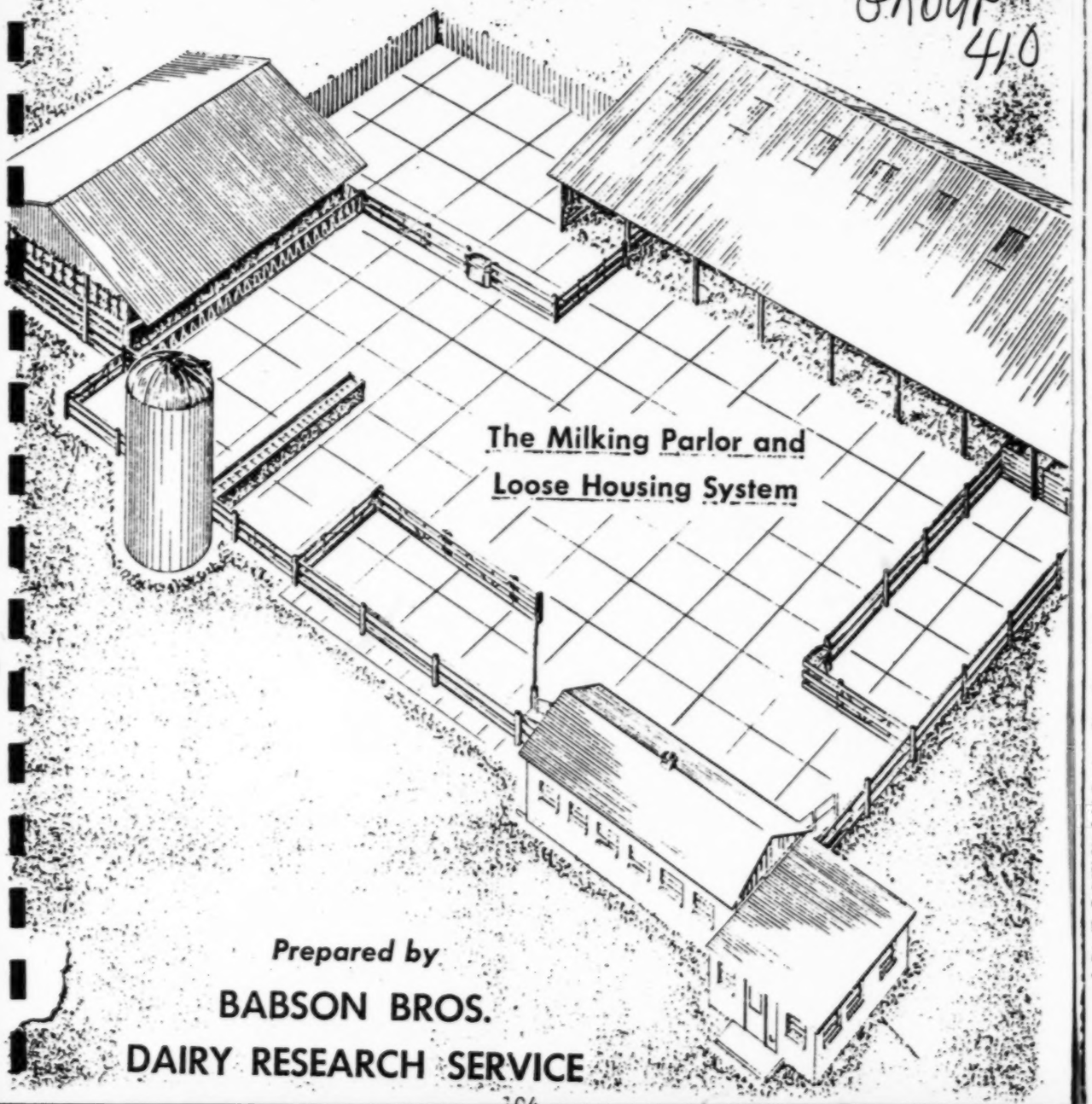
STEPS IN CONCRETING DAIRY-BARN FLOORS

Considerable difficulty will be avoided if the various parts of a dairy-barn floor are built in the order suggested by this plan. Drawing No. -5106 (1 sheet)

26

The Way Cows Will Be Milked On YOUR Farm "Tomorrow"

GROUP 410



The Milking Parlor and Loose Housing System

Prepared by

BABSON BROS.

DAIRY RESEARCH SERVICE

KEEP COWS CROWDED is function of good Holding Pens. Here is a wide lane which serves as a Holding Area for a large herd. As cows move through parlor, gate can be swung across lane to crowd remaining cows.

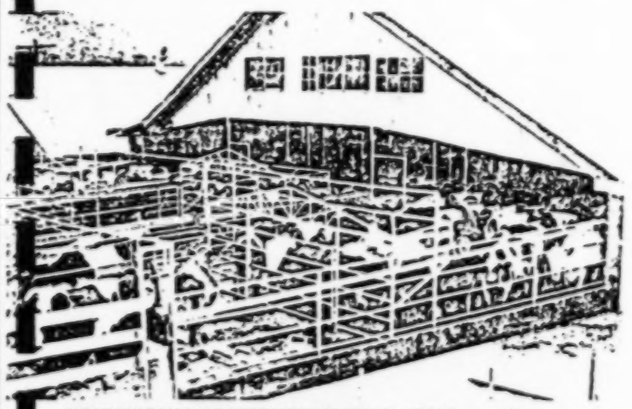
Your Holding Pen Makes a Difference in Milking Efficiency

A Holding Pen is more than just a fence to separate the unmilked cows from the milked ones!

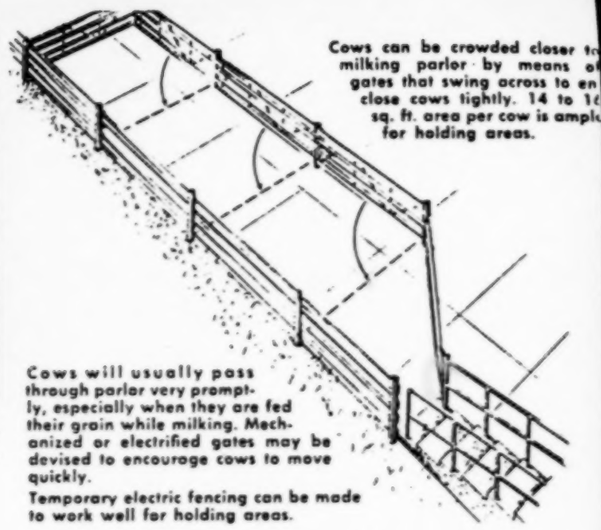
It is actually an integral part of a loose-housing system and should be planned to hold cows so that they can and will move automatically and swiftly into the milking parlor.

In the first place it should be "too small" for cow comfort . . . about 14 square feet per animal packs cows tightly enough so that they will WANT to get out . . . through the milking parlor. Some men use sectional gates to reduce holding area as cows leave it. Some have power operated fences which hold cows bunched up as others move out to be milked.

Also it should channel the cows toward the milking parlor door. A square pen is never as good as a long narrow one . . . or, a triangular pen which guides cows to parlor ramp or entrance door.



MECHANICALLY CONTROLLED HOLDING AREAS on a large commercial dairy handling up to 1000 cows. "Strings" of 60 to 80 animals are brought from corrals to pens shown. As cows move through parlor, gates on tracks keep cows bunched toward entrance ramps. In warmer climates, spray heads are sometimes set in concrete for washing away mud or dust during holding.



Cows can be crowded closer to milking parlor by means of gates that swing across to enclose cows tightly. 14 to 16 sq. ft. area per cow is ample for holding areas.

Cows will usually pass through parlor very promptly, especially when they are fed their grain while milking. Mechanized or electrified gates may be devised to encourage cows to move quickly.

Temporary electric fencing can be made to work well for holding areas.

For best results provide a pen that funnels the cows toward a ramp or steps with a holding lane long enough for 2 or 3 cows to line up . . . so that there will be no place to go but into the milking parlor.

Since the Holding Area will need regular cleaning, provide gates or movable fence so that power equipment may be used at the same times the paved lot is cleaned.

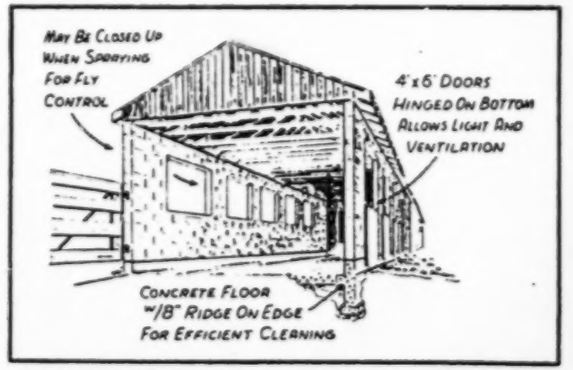
CLEANING

The Holding Area as well as the Paved Lot should be cleaned as needed to prevent any build-up of mud or manure.

By means of portable fences and a natural slope, such cleaning can be done with tractor and scraper blade.

Some dairymen provide a "dock" where droppings may be scraped into spreaders parked below dock level. Others load spreaders regularly . . . or, push waste and manure into a side area until spreading can be done conveniently.

Liquid manure as a fertilizer is popular in some areas. Special equipment and provision for handling it is necessary. Check with local college agricultural engineering departments.



COVERED HOLDING AREAS are desirable when cows need protection from freezing winds, snow or excessive rains for considerable periods of time. A well drained, unobstructed area for cleaning is necessary. Good ventilation and light is needed to help dry the area. Avoid holding cows on bedded areas or any area which cannot be cleaned regularly.

Editorial Note

AFTER BLACK ROCK: NEW TESTS OF PATENTABILITY—THE OLD TESTS OF INVENTION

Introduction

In *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*[1] the Supreme Court revived the illusory "invention" standard as a requisite of patent validity. In light of its apparent rejection by Congress and subsequent abandonment by the Court, the reappearance of this standard in *Black Rock* raises questions of vital concern to proponents of a functional patent system. The ample history of its application indicates that the "invention" requirement provided little guidance in determining patentability. Aptly termed "the plaything of the judges,"[2] it was never clearly defined nor consistently employed.[3]

1. 396 U.S. 57, 163 U.S.P.Q. 673 (1969)..
2. Judge Rich of the Court of Patent Appeals has stated:
   In the final analysis, all it amounted to was that if the court thought the invention, though new and useful, was not patentable, then it did not involve "invention" and vice versa. The requirement for "invention" was the plaything of the judges who, as they became initiated into its mysteries, delighted to devise and expound their own ideas of what it meant; some very lovely prose resulting.

Rich, *Principles of Patentability*, 28 GEO. WASH. L. REV. 393, 404 (1960).

3. Speaking of "invention," the Supreme Court has said:
   The truth is the word cannot be defined in such manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not. In a given case we may be able to say that there is present invention of a very high order. In another we can see that there is lacking that impalpable something which distinguishes invention from simple mechanical skill. Courts, adopting fixed principles as a guide, have by a process of ex-

The presence or absence of "invention," ostensibly a guide to measure the patentee's claim, served rather as a vehicle for rationalizing a conclusion derived from judicial consideration of a variety of factors—factors as numerous as the courts which examined them.

The inconsistency and uncertainty which attended the courts variegated approach prompted Congress to prescribe a statutory solution.[4] The Patent Act of 1952 established a precise standard expressed in terms of nonobviousness. The nonobviousness test, embodied in section 103 of the Act, compels a comparison between the subject matter of the patent and the previous state of the art to determine whether the patentee's contribution to the useful arts would have been obvious at the time of its formulation. The standard of reference for that determination is a person possessing "ordinary skill" in the pertinent art. Congress recognized the ambiguity of the term "invention" and specifically chose not to include it in section 103.[5]

The *Black Rock* decision represents a departure from the Court's adoption of the statutory requirement of nonobviousness as a sufficient gauge of patentability. Mr. Justice Douglas, writing for the full Court, clothed his opinion in the old language of "invention," thereby countenancing a more rigorous standard of patentability than that required by section 103 alone.

This note will explore the ramifications of the latest Supreme Court pronouncement as it affects the current test of nonobviousness. It is suggested that section 103 provides a reasonable standard which may be applied by the courts with the uniformity necessary to lend predictability to the patent system. To encumber the standard of nonobviousness with the vagueries of "invention," as *Black Rock* suggests, will produce confusion for the courts and uncertainty for those concerned with patent protection.

Before the Patent Act of 1952—The Requirement of Invention

The validity of a patent depends upon the presence of several conditions. "Novelty"[6] and "utility"[7] have been established as prerequisites of patentability since the Patent Act of 1793.[8] While these requirements originated with specific statutory provisions, the element of "invention" was judicially evolved. Despite congressional

   clusion determined that certain variations in old devices do or do not involve invention; but whether the variation relied upon in a particular case is anything more than ordinary mechanical skill is a question which cannot be answered by applying the test of any general definition.

McClain v. Ortmayer, 141 U.S. 419, 427 (1891).

4. The Patent Act of 1952, 35 U.S.C. § 103 (1964); *see* text accompanying note 90, *infra*.
5. *See* text accompanying notes 94-105, *infra*.
6. 35 U.S.C. § 102 (1964).
7. *Id.* § 101.
8. Patent Act of 1793, ch. 11, 1 Stat. 318.

silence, courts pointed to the enabling provision of the Constitution as the source of this third requirement of patentability. Article I, section eight authorizes Congress to issue patents in order to "promote the progress of science and the useful arts."[9] Examination of that expressed purpose of patent protection, coupled with use of the terms "inventors" to describe the patentees and "discoveries" to denote those creations which may be considered deserving of such protection, convinced the judiciary that a contribution must be characterized by something more than mere "novelty" and "utility" in order to be worthy of the exclusionary rights embodied in a patent.[10] That additional characteristic was denominated "invention."

The Supreme Court's initial verbalization of the standard of "invention" came in *Hotchkiss v. Greenwood*.[11] There, the patentee had claimed a method for facilitating the fastening of a door knob to its shank by making the knob out of clay. Affirming the judgment below, the Court stated that the door knob was unpatentable, "unless more ingenuity and skill in applying the old method of fastening the shank and the knob were required in the application of it to the clay or porcelain knob than were possessed by an ordinary mechanic acquainted with the business."[12] The *Hotchkiss* test fixed the skill level of the ordinary mechanic in the related business as the objective standard against which the presence of "invention" would be measured. In *Atlantic Works v. Brady*,[13] the Court reaffirmed its position by declaring that the patent laws were not meant ". . . to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures."[14] A device would be denied patent protection if its formulation would have been apparent to a skilled

9. U.S. CONST. art. I, § 8 states that: "The Congress shall have power to promote the progress of science and useful arts, by securing for limited Times to . . . Inventors the exclusive right to their . . . Discoveries. . . ."
10. Thompson v. Boisselier, 114 U.S. 1 (1884); *see* Gardner v. Herz, 118 U.S. 180 (1886). *But see* Rich, *Patentability*, *supra* note 2, at 405: "The words 'Inventors' and 'Discoveries' no more dictate that an invention must be better than does the promotion of progress clause. The Constitution, therefore, contains no such requirement." In *Thompson* the Supreme Court extended this argument to find statutory justification for the "invention" requirement by referring to the language of the Patent Act of 1836, ch. 357, § 6, 5 Stat. 119, which required that the patentee be an individual who had "discovered or invented a new and useful art, machine, manufacture or composition of matter." The Patent Act of 1870, ch. 230, § 24, 16 Stat. 201, identified the patentee as the one who "invented or discovered." Although neither of the statutes contained any explicit mention of "invention," the Court considered the requirement implicit in the Congressional language. Thompson v. Boisselier, *supra* at 13.
11. 52 U.S. (11 How.) 248 (1850).
12. *Id.* at 267.
13. 107 U.S. 192 (1882).
14. *Id.* at 200.

mechanic in the ordinary performance of his work.[15] It was in light of the *Atlantic Works* opinion that the Court reiterated its conclusion—first expressed in *Hotchkiss*—that "invention" was a necessary prerequisite of patentability.[16] The Court's expression of the test of "invention" emerging from *Hotchkiss* and *Atlantic Works* resulted in an exclusionary rule whereby a patent would be denied any device whose development would have been obvious to a mechanic skilled in the pertinent art.

Nineteenth century courts were generally responsive to the guidelines set out in *Hotchkiss*. Technology, still in its infancy in most fields, was usually within the comprehension of the lay judge. He was able to examine the patentee's claim from the posture of one skilled in the relatively uncomplicated art of the times and thereby evaluate the validity of a patent within the framework of the *Hotchkiss* test.[17]

In *Vinton v. Hamilton*,[18] the patentee claimed a cupola-furnace and a cinder-notch in combinaton, both elements being old and the cinder-notch being used with a blast furnace. The Court determined that the cinder-notch performed the same function when used with the cupola-furnace as it had when used with the blast furnace and thus its application to a different type furnace "would occur to any practical man, and that [therefore] there was nothing patentable in such application."[19] *Hall v. MacNeale*[20] concerned a patent claiming a solid conical bolt with a screw-thread on it. Since both the solid conical bolt and the use of a screw-thread on a cored conical bolt were known to the prior art, the Court concluded: "There was no invention in adding [the one element to the other]."[21]

The problem of defining "invention" became more critical in the twentieth century. The *Hotchkiss* standard for "invention," conceived in the context of an elementary technology, became difficult to apply to the complexities of an industrial age.[22] As a result, the courts began to elaborate upon the concept of "invention."[23] The

15. The reader will note a similarity between this interpretation of the early *Atlantic Works* doctrine and the later nonobvious standard of section 103. Nonetheless the more common reference to a "trifling device" found in later decisions was restrictive and failed to address the question of nonobviousness. Although courts employed the "every trifling device" phrase to describe those devices which they felt lacked that "inventive" quality required for patentability, such application was no more than a statement of a legal conclusion. The opinion in *Atlantic Works* is more properly interpreted as a reaffirmation of the test set out in *Hotchkiss*. Although stated as a negative rule, it meant that a "trifling device" was that device which was obvious to the skilled mechanic or operator.
16. 114 U.S. 1 (1884).
17. *See generally* Dession, *The Trial of Economic and Technological Issues of Fact*, 58 YALE L.J. 1019, 1242 (1949) (pts. 1-2); Note, *Subtests of "Nonobviousness": A Nontechnical Approach to Patent Validity*, 112 U. PA. L. REV. 1169 (1964).
18. 104 U.S. 485 (1881).
19. *Id.* at 492.
20. 107 U.S. 90 (1882).
21. *Id.* at 96.
22. Note, "*Nonobviousness*", *supra* note 17, at 1169-70.
23. *Hearings on H.R. 3760 Before Subcomm. No. 3 of the House Judiciary Comm.*, 82d Cong., 1st Sess. 58-70 (1951).

element of "invention" was variously described as patentable novelty,[24] the exercise of the inventive faculty[25] or the creative faculty,[26] and inventive skill or inventive effort.[27] This variety of definitions prompted Judge Learned Hand to conclude: "You could find nearly anything you like if you went to the opinions. It was a subject on which judges loved to be rhetorical."[28]

It was in the nature of their elaboration that courts differed markedly. The proliferation of tests and standards utilized to determine the presence or absence of "invention" produced inconsistent and unpredictable results. While some courts developed tests responsive to the objective standard expressed in *Hotchkiss*, others obscured the "invention" requirement in a morass of subjective criteria.

Subjective Tests

In determining the presence or absence of "invention," many courts looked to their own subjective notions of patentability.[29] The tests thus formulated were often expressed in a negative manner by characterizing the absence of "invention."[30] The postulate that substitution of materials did not constitute "invention" was illustrative of these rules.[31] In addition, courts determined that reversal of parts,[32] change of proportion,[33] change of location, size, degree and

24. United Chromium, Inc. v. International Silver Co., 53 F.2d 390, 393, 11 U.S.P.Q. 108, 111 (D. Conn. 1931), *modified*, 60 F.2d 913, 15 U.S.P.Q. 51 (2d Cir.), *cert. denied*, 288 U.S. 600 (1932); *cf.* Howell Co. v. Royal Metal Mfg. Co., 93 F.2d 112, 36 U.S.P.Q. 45 (7th Cir. 1937).
25. Potts v. Creager, 155 U.S. 597, 608 (1895).
26. Turner v. Goldstein, 144 F.2d 338, 341, 69 U.S.P.Q. 53, 55 (10th Cir. 1946).
27. Ansonia Brass & Copper Co. v. Electrical Supply Co., 144 U.S. 11, 18 (1892); Smith v. Goodyear Dental Vulcanite Co., 93 U.S. 486, 497 (1876).
28. *Hearings on S. Res. 92 Before the Subcomm. on Patents, Trademarks and Copyrights of the Senate Comm. on the Judiciary*, 84th Cong., 1st Sess. 113 (1955). One witness who testified at the hearings held prior to passage of the Patent Act of 1952, described the mystery surrounding the word "invention" as an "enormous enveloping cocoon of metaphysical hocus-pocus." *Hearings on H.R. 3760, supra* note 23, at 58. Such comments reflect the confusing and conflicting principles which courts applied in rendering determinations of patent validity prior to the enactment of the Patent Act of 1952.
29. Although termed "subjective," the tests are better characterized as nonresponsive to the requirements of the *Hotchkiss* standard of "invention."
30. One comprehensive survey of rules of "invention" included a list of fourteen situations where "invention" was absent. Deller, *The Problem of Invention in the Law of Patents*, 28 J.P.O.S. 797, 802 (1946).
31. *See, e.g.*, Heath v. Frankel, 153 F.2d 369, 68 U.S.P.Q. 132 (9th Cir.), *cert. denied*, 328 U.S. 844 (1946); Evr-Klean Seat Pad Co. v. Firestone Tire and Rubber Co., 118 F.2d 600, 49 U.S.P.Q. 129 (8th Cir. 1941); Paine & Williams Co. v. Baldwin Rubber Co., 113 F.2d 840, 46 U.S.P.Q. 109 (6th Cir. 1940).
32. *See, e.g.*, Hamilton Beach Mfg. Co. v. P.A. Geier Co., 230 F. 430 (7th Cir. 1916).
33. Ronning Mach. Co. v. Caterpillar Tractor Co., 129 F.2d 70, 53 U.S.P.Q. 593 (7th Cir.), *cert. denied*, 317 U.S. 670 (1942); Murphy v. Coe, 99 F.2d 994, 39 U.S.P.Q. 94 (D.C. Cir. 1938).

form,[34] and aggregation of parts[35] were not "invention." Determinations based upon these and other subjective rules[36] failed to identify the skill level in the art, or reflect a comparison between the prior art and the subject matter of the particular patent—considerations essential to determining whether the *Hotchkiss* standard of "invention" had been met.

Paralleling the development of these subjective tests was the emergence of a generally restrictive judicial attitude toward patent validity.[37] Courts used the subjective tests as tools to formulate a stricter standard of patentability congruent with the desire to protect the public from patent misuse.[38] In an early First Circuit decision,[39] holding that insertion of a paper tube between the outer shell of a lamp socket and the current-carrying parts of the socket lacked "invention," the court concluded that: "Reasonable consideration of such rules rejects the idea of accepting every ingenious and beneficial mechanical device as involving invention or discovery within the meaning of the Constitution and the statutes."[40] In the court's view, considerations of public policy mandated a rigorous evaluation of a patent as a prerequisite to the determination of validity. The opinion, however, offered no indication of the characteristics necessary to comply with this test.

The Supreme Court gave its approval to this stricter standard of patentability in *Sinclair & Carroll Co. v. Interchemical Corp.*[41] Con-

34. *See, e.g.*, Schick Service, Inc. v. Jones, 173 F.2d 969, 81 U.S.P.Q. 60 (9th Cir.), *cert. denied*, 338 U.S. 819 (1949); Sales Affiliates, Inc. v. Nat'l Mineral Co., 172 F.2d 608, 80 U.S.P.Q. 389 (7th Cir.), *cert. denied*, 337 U.S. 940 (1946); McCurrach v. Cheney Bros., 152 F.2d 365, 67 U.S.P.Q. 254 (2d Cir. 1945).
35. *See, e.g.*, Lincoln Eng'r Co. v. Stewart-Warner Corp., 303 U.S. 545, 37 U.S.P.Q. 1 (1938).
36. *See* Deller, *The Problem of Invention*, note 30 *supra*.
37. A series of cases which emerged from the Court of Appeals for the District of Columbia Circuit in the 1940's was illustrative of a stricter attitude toward the patentee. In Special Equip. Co. v. Coe, 144 F.2d 497, 62 U.S.P.Q. 12 (D.C. Cir. 1944), *rev'd*, 324 U.S. 370 (1945), the court held that public policy required an applicant to have some expectation of exploiting the patent. In Monsanto Chem. Co. v. Coe, 145 F.2d 18, 62 U.S.P.Q. 37 (D.C. Cir. 1944), the court looked to the degree of control the applicant had in the industry to determine if a patent should be awarded. The court evidently reasoned that granting a patent to an applicant with monopolistic control over the industry to which the patent applied would "impede science and the useful arts." *Id.* at 23, 62 U.S.P.Q. at 42. Finally in Potts v. Coe, 145 F.2d 27, 62 U.S.P.Q. 331 (D.C. Cir 1944), the result of a step-by-step experimentation was held not to be "invention." This negative rule was formulated to impose a stricter standard on the corporate research and development facility, the court explicitly holding that an invention emerging from such a facility must meet a higher standard of patentability than a device conceived by an individual inventor. *Id.* at 28, 62 U.S.P.Q. at 333. These and similar decisions were reached by courts disposed to eliminate misuse of patents by means of expedient findings of lack of "invention."
38. The inherent judicial fear of monopoly may play a significant role in patent litigation. Judge Hand said: "I think a great deal of the odium that has surrounded the subject is because patents are monopolies." *Hearings on S. Res. 92, supra* note 28, at 114. It has been suggested that the harsh judicial attitude of the late thirties and forties may have derived from the Depression and the spirit of the New Deal reform, *e.g.* trust-busting. Gregg, *Tracing the Concept of "Patentable Invention,"* 13 VILL. L. REV. 98 (1967).
39. Marshall v. Wirt, 232 F. 606 (1st Cir. 1916).
40. *Id.* at 608.
41. 325 U.S. 327, 65 U.S.P.Q. 297 (1945).

cerned with developing a patent system which would serve society rather than aid the individual patentee, the Court chose to pursue this goal through its interpretation of the "invention" requirement.

> The primary purpose of our patent system is not reward of the individual but the advancement of the arts and sciences. Its inducement is directed to disclosure of advances in knowledge which will be beneficial to society; it is not a certificate of merit, but an incentive to disclosure.[42]

But again, there was no explication of the standards a patentee would have to achieve to obtain a patent which the courts would consider valid. This harsh attitude, which persisted throughout the thirties and forties,[43] was accurately summarized in Justice Jackson's objection to the "strong passion in this Court for striking them [patents] down so that the only patent that is valid is one which this Court has not been able to get its hands on."[44]

Objective Tests

While many courts chose the subjective approach, others sought respite from the confusion by formulating tests more responsive to the *Hotchkiss* standard. Recognizing the difficulties attendant judicial treatment of complex technological concepts,[45] they employed non-technical criteria[46] to provide evidence of the presence or absence of "invention."

> Among these will figure the length of time the art, though needing the invention, went without it: the number of those who sought to meet the need, and the period over which their efforts were spread: how many, if any, came upon it about the same time, whether before or after: and—perhaps most important of all—the extent to which it superseded what had gone before.[47]

Evaluation of the record, in light of these criteria, enabled the court in each case to render a more objective determination of patentability:[48] "We have repeatedly declared that in our judgment this

42. *Id.* at 330-31, 65 U.S.P.Q. at 299.
43. *See* Cuno Eng'r Corp. v. Automatic Devices Corp., 314 U.S. 84, 51 U.S.P.Q. 272 (1941); note 86 *infra*.
44. Jungerson v. Ostly & Barton Co., 335 U.S. 560, 572, 80 U.S.P.Q. 32, 36 (1949) (dissenting opinion).
45. *See, e.g.*, Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937, 939, 69 U.S.P.Q. 401, 402-03 (2d Cir. 1946).
46. *See* Note, "*Nonobviousness*," note 17 *supra*.
47. Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937, 939, 69 U.S.P.Q. 401, 403 (2d Cir. 1946).
48. *See, e.g.*, Kirsh Mfg. Co. v. Gould-Merseteau Co., 6 F.2d 793 (2d Cir. 1925); Van Heusen Prods., Inc. v. Earl & Wilson, 300 F. 922 (S.D.N.Y. 1924):
> The prospect of getting objective tests for invention is tempting, but it is a mirage. How is it possible to say *a priori* what combination of elements needs an original twist of the mind, and what is within the compass of the ordinary clod? Is it not clear that the

approach is more reliable than a priori conclusions drawn from vaporous, and almost inevitably self-dependent, general propositions."[49] Viewing the *Hotchkiss* standard as requiring comparison between the device and the prior art, these courts looked to the circumstances preceding, attending and succeeding its appearance to provide indirect evidence of nonobviousness:

> Courts, made up of laymen as they must be, are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar, and, so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention.[50]

Among the criteria considered was long felt need in the industry:[51]

> Long recognition of an existing problem in any art, and the advantages to accrue to an industry from its solution, coupled with repeated failures to find solution, has ever been considered as highly persuasive of invention when success is finally attained.[52]

Similarly, a history of prior efforts and failures by those in the industry was considered significant in determining the presence of "invention."[53]

Two additional criteria were recognized by the Supreme Court in *Goodyear Co. v. Ray-O-Vac Co.*[54] In considering whether encasing a battery in a leakproof metallic shell constituted "invention," Justice Roberts noted that over a period of half a century the use of flash light batteries had increased greatly and that during that time the manufacturers, knowing the defects in the batteries, had not devised a remedy. The Court felt the long delay in taking that step and the commercial success which greeted the innovation were entitled to weight in the determination of patentability.[55]

General public adoption, as evidenced by commercial success, attained wide acceptance as an indication of the presence of "inven-

quality of a man's inventiveness must be tested by reconstituting the situation as it was in the light of the preceding history of the art?
Id. at 929.
49. Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937, 939, 69 U.S.P.Q. 401, 403.
50. *Id.*
51. *See e.g.*, Goodyear Co. v. Ray-O-Vac Co., 321 U.S. 275, 60 U.S.P.Q. 386 (1944); *In re* Sukman, 351 F.2d 658, 147 U.S.P.Q. 280 (C.C.P.A. 1965); Schnell v. Allbright-Nell Co., 348 F.2d 444, 146 U.S.P.Q. 322 (7th Cir. 1965); Twentier's Honolulu Oil Corp. v. Shelby Poultry Co., 293 F.2d 127, 130 U.S.P.Q. 289 (4th Cir. 1961); Trabon Eng'r Corp. v. Dirkes, 136 F.2d 24, 58 U.S.P.Q. 97 (6th Cir. 1943); Seymour v. Ford Motor Co., 44 F.2d 306, 7 U.S.P.Q. 182 (6th Cir. 1930).
52. Cleveland Trust Co. v. Schriber-Schroth Co., 92 F.2d 330, 334, 35 U.S.P.Q. 475, 479 (6th Cir. 1937).
53. Trabon Eng'r Corp. v. Dirkes, 136 F.2d 24, 58 U.S.P.Q. 97 (6th Cir. 1943).
54. 321 U.S. 275, 60 U.S.P.Q. 326 (1944).
55. *Id.* at 279, 60 U.S.P.Q. at 388. The majority opinion should be read in contrast with Justice Black's dissent which conformed to the stricter standard of patentability required by the Court in other cases. To Justice Black the real discovery was "that liquids would not leak through leak-proof solids," and that discovery, he maintained, "predated the dawn of written history." *Id.* at 280, 60 U.S.P.Q. at 388.

tion."[56] As a measure of public acceptance, commercial success evidenced nonobviousness since it was achieved by satisfying a previously unfulfilled need.[57] Moreover, while general acceptance was accorded weight, the Sixth Circuit recognized, "that where success follows acceptance by experts rather than by those unskilled, it is of far greater tribute to the ingenuity of the inventor."[58]

Occasionally the courts considered the action of competitors as evidence of nonobviousness.[59] They found "invention" indicated by a competitor's continuing infringement in the face of litigation and unsuccessful attempts to avoid the patent by minor modifications.[60] Considered also was substantial duplication of a patentee's device or process by an alleged infringer who was unable to circumvent it.[61]

The action of an alleged infringer after termination of a license under the patent and the existence of licenses based on substantial consideration were each considered indicative of "invention." If the former licensee continued to make, use or sell after termination of the license, the case for patent validity was thereby strengthened.[62] Commercial acquiescence by competitors in the form of acceptance of licensing agreements was also considered evidence of invention.[63]

56. Paramount Publix Corp. v. American Tri-Ergon Corp., 294 U.S. 464, 24 U.S.P.Q. 303 (1935); Smith v. Snow, 294 U.S. 1, 24 U.S.P.Q. 26 (1935); Tempco v. Apco, 275 U.S. 319 (1928); Eibel Process Co. v. Minnesota & Ontario Paper Co., 261 U.S. 45 (1923); Minerals Separation, Ltd. v. Hyde, 242 U.S. 261 (1916); Hollister v. Benedict Mfg. Co., 113 U.S. 59 (1885); Trabon Eng'r Corp. v. Dirkes, 136 F.2d 24, 58 U.S.P.Q. 97 (6th Cir. 1943); Cleveland Trust Co. v. Schriber-Schroth Co., 92 F.2d 330, 35 U.S.P.Q. 475 (6th Cir. 1937); National Battery Co. v. Richardson Co., 63 F.2d 289, 17 U.S.P.Q. 60 (6th Cir. 1933); Naivette v. Bishinger, 61 F.2d 433, 15 U.S.P.Q. 200 (6th Cir. 1932). A problem would arise, however, when there were alternative explanations for the commercial adoption, e.g., a successful marketing campaign to promote the product. In such cases its weight as an indicator of "invention" would be greatly reduced.

57. In addition, in the typical situation commercial success was easy to measure by an analysis of increased sales and demand for the product or process patented.

58. Cleveland Trust Co. v. Schriber-Schroth Co., 92 F.2d 330, 335, 35 U.S.P.Q. 475, 480 (6th Cir. 1937).

59. *See* Williams Mfg. Co. v. United Show Mach. Corp., 121 F.2d 273, 50 U.S.P.Q. 264 (6th Cir. 1941); Consolidated Rubber Tire Co. v. Diamond Rubber Co., 162 F. 892 (2d Cir. 1908).

60. *See* Williams Mfg. Co. v. United Show Mach. Corp., 121 F.2d 273, 50 U.S.P.Q. 264 (6th Cir. 1941).

61. *See* Blake v. Robertson, 94 U.S. 728 (1876); Gen. Tire & Rubber Co. v. Fisk Rubber Corp., 104 F.2d 740, 41 U.S.P.Q. 346 (6th Cir. 1939); Gen. Elec. Co. v. Wagner Elec. Mfg. Co., 130 F. 772 (2d Cir. 1904).

62. *See* Stevens v. Schmid, Inc., 73 F.2d 54, 23 U.S.P.Q. 117 (2d Cir. 1934); Detroit Motor Appliance Co. v. Taylor, 66 F.2d 319, 18 U.S.P.Q. 226 (7th Cir. 1933); Adam v. Folger, 120 F. 260 (7th Cir. 1903).

63. Judge Hand described the "trade-off" which the licensee faces:

> [A]cquiescence has often been taken as evidence of invention upon preliminary injunction, but the force of the inference is variable. The reasoning is that if licensees consent to pay tribute, they must believe the disclosure to be patentable, and that this is evidence that it was beyond commonplace contrivance. But when a manufacturer takes a license, it is the resultant of two opposed motives, its cost and the dangers of infringement; and the magnitude of neither factor can be ascertained without knowing that of the other.

Ruben Condenser Co. v. Copeland Refrigeration Corp., 85 F.2d 537, 541, 31 U.S.P.Q. 6, 10 (2d Cir. 1936). *See* Eibel Process Co. v. Minnesota & Ontario Paper Co., 261 U.S. 45 (1923).

64. 303 U.S. 545, 37 U.S.P.Q. 1 (1938).

65. *Id.* at 549, 37 U.S.P.Q. at 3.

66. *Id.* The rationale of the Court's opinion is not clear from the expressed objection, i.e., that patentee claimed more than he invented. By claiming a patentable element in combination with other elements, a patentee actually dilutes his rights since only a device which comprises all of the claimed elements will directly infringe. It is suggested that the Court was disposed to render a decision adverse to the patentee because it considered judgment against the particular defendant in *Lincoln* inequitable. The action was brought against a manufacturer of fittings on the ground that the fittings were unusable and intended to be used in connection with the other elements of the claimed invention. The accused fitting was an "old" element and it would appear that the Court was opposed to construing the patentee's protection to include unpatented and unpatentable commodities. *See* Note, *Vending an Old Combination: A Patent Misuse - Antitrust Problem*, 57 GEO. L.J. 1057, 1060 (1969) wherein the *Lincoln* doctrine is considered in the context

These were some of the criteria adopted by those courts which sought objective guides for their evaluations of patentability. The relative weight given a particular factor varied with the facts of each case. But in each instance they provided evidence manageable by a lay judge, enabling him to arrive at a more objective determination of patent validity.

Patents for Mechanical Combinations—An Illustration

In later opinions, the Supreme Court assumed a general posture which evidenced a more negative and subjective attitude. The analysis which the Court applied in cases treating mechanical combinations illustrates the confusion attendant its vagrant approach. These cases dealt with devices claimed as combinations of mechanical elements. In some instances each of the elements was known in the prior art; in others, an element of the combination was itself new; but in all cases, patentability was claimed for the combination rather than any individual mechanical element. Couched in terms of the *Hotchkiss* standard, the patentee's assertion was that one skilled in the relevant art would not find it obvious to combine these elements to produce the claimed device.

In *Lincoln Engineering Co. v. Stewart-Warner Corp.*,[64] the patent in question dealt with an apparatus for lubricating bearings of the type used in automobiles. The means of lubrication known in the art consisted of a pressure pump for propelling the lubricant, a hose for conveying it, a fitting to join the lubricating apparatus to the bearing to be so treated and a coupling element to unite the fitting to the hose. The claimed combination differed from prior art in the coupling member, and the Court conceded the patentability of the coupler, at least *arguendo*.[65] Rather than claiming that element broadly, the patentee claimed it in combination with the other parts, i.e., pump, hose, and fitting. The Court declared the "patent . . . void as claiming more than the applicant invented."[66]

The test perceived as the appropriate gauge of patentability in combination cases was: where old elements are joined, the combination must perform some new function. In keeping with the prevailing attitude, the Court chose to enunciate its rule in terms of what did not constitute "invention": "The mere aggregation of a number of old parts or elements which, in the aggregation, perform or produce no new or different function or operation than theretofore performed or produced by them, is not patentable invention."[67] The patentee was not benefited by the presence of a patentable element within the combination. The entire combination had to satisfy the rule: "[T]he improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination."[68] It is difficult to reconcile this position with the *Hotchkiss* guideline since one possessing the average skill of the calling would not be able to combine elements to create a device where one or more of those elements was unknown to him.

In a later case, the Court affirmed the combination rule stated in *Lincoln*. The subject matter in *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*[69] was a check-out stand, as used in a grocery store. The device combined a counter with a slidable three-sided open-bottom frame so that groceries could be deposited at one end and pulled over by the cashier when he was ready to tally the shopper's bill and package the purchased goods. Although each of the claimed elements was known, the district court held the patent valid.[70] The Court of Appeals, impressed with evidence of wide adoption of the stand, substantial commercial success, increased rate of consumer check-out, decreased costs for merchants and apparent fulfillment of a need in the industry, affirmed the judgment of the trial court.[71] The Supreme Court, however, reversed, on the strength of its finding that the elements performed no new functions when in combination. The three-sided frame, combined with

of extension of a monopoly.

Rather than treating the issue as one of infringement, the Court dealt with validity and arrived at the desired result — dismissal of the action — by declaring the patent invalid. Not only was the holding unnecessary, but the reasoning was incongruous in that the Court relied heavily on a prior case, Rogers v. Alemite Corp., 298 U.S. 415, 29 U.S.P.Q. 311 (1935), which dealt with a strikingly similar fact situation by holding that the patent was not infringed rather than declaring it invalid. Indeed, the Court, in that case, expressly stated that the claims were valid. *Id.* at 420, 29 U.S.P.Q. at 313.

67. 303 U.S. at 549, 37 U.S.P.Q. at 3.
68. *Id.* at 549-50, 37 U.S.P.Q. at 3.
69. 340 U.S. 147, 87 U.S.P.Q. 303 (1950).
70. Bradley v. Great Atl. & Pac. Tea Co., 78 F. Supp. 388, 77 U.S.P.Q. 343 (E.D. Mich. 1948).
71. 179 F.2d 635, 84 U.S.P.Q. 209 (6th Cir. 1950).

the counter, functioned as it would with any other table, and the counter supported groceries as it would without the frame.

Although in *A & P* the combination consisted of only old elements and was therefore distinguishable from the device in *Lincoln*, the prior decision was regarded as having accurately distilled the law on combinations.[72] The Court simply rephrased its test: "The conjunction or concert of known elements must contribute something; only when the whole in some way exceeds the sum of its parts is the accumulation of old devices patentable."[73]

This rule is insensitive to the lack of obviousness in bringing the several old elements together. A test which looks solely to the operation of the elements *after* they are combined must necessarily be premised on the unsound assumption that it is always obvious to take known things and combine them. It is the very unification of the elements, where the prior art fails to suggest such an action, that represents the advancement;[74] and the test of patentability should be directed to this factor.

The Court disposed of the patentee's evidence of long-felt need and commercial success by declaring these matters irrelevant to the determination of "invention."[75] The rejection of this evidence as bearing upon the question of patentability can only be attributed to the wide subjective discretion available to a court which employs a standard as cryptic as "invention."

The *Lincoln-A & P* test and the concomitant rejection of evidence such as commercial success and long-felt need, aided disposition of cases in accordance with the mandate expressed in *A & P* —that courts "scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements."[76] Though on the facts these rules would appear limited in their applicability to the combination of mechanical elements, there is no justification for making a legal distinction based on the nature of the invention. As Judge Hand observed: "Substantially all inventions are the combination of old elements . . . ."[77] Recognizing that "element" has a

72. 340 U.S. at 151, 87 U.S.P.Q. at 305.
73. *Id.* at 152, 87 U.S.P.Q. at 305.
74. Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937, 69 U.S.P.Q. 401 (2d Cir. 1946): "Substantially all inventions are for the combination of old elements; what counts is the selection, out of all their possible permutations, of that new combination which will be serviceable." *Id.* at 939, 69 U.S.P.Q. at 402.
75. "The Court of Appeals and the respondent both lean heavily on evidence that this device filled a long-felt want and has enjoyed commercial success. But commercial success without invention will not make patentability." 340 U.S. at 153, 87 U.S.P.Q. at 306.
76. *Id.* at 152, 87 U.S.P.Q. at 306.
77. Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937, 939, 69 U.S.P.Q. 401, 402 (2d Cir. 1946). *See* Reiner v. I. Leon Co., 285 F.2d 501, 128 U.S.P.Q. 25 (2d Cir. 1960), *cert. denied*, 366 U.S. 929 (1961): "It is idle to say that combinations of old elements cannot be inventions; substantially every invention is for such a 'combination'; that is to say, it consists of former elements in a new assemblage." *Id.* at 503, 128 U.S.P.Q. at 27; Ruben Condenser Co. v. Copeland Refrigeration Corp., 85 F.2d 537,

broader definition than "a mechanical part," and that "combination" connotes any "relationship" between known entities,[78] one can see that a sequence of old or known steps, a reaction between known chemicals, or a product having a combination of known properties are combinations of old elements no less than a lubricating device or check-out counter. The rules and judicial attitude towards "invention," expressed in the mechanical combination cases, could consequently be applied to the whole spectrum of patent cases.

The Patent Act of 1952

Legislative Intent

While *A & P* was being considered by the Supreme Court, the patent bar was aiding Congress in the preparation of comprehensive patent legislation. Among the provisions contemplated was the addition of a third statutory prerequisite to patentability.[79] With the decision in *A & P*, the drafters became convinced that "invention" could not be considered an adequate standard.[80] Language was sought which would be capable of consistent and predictable application while providing a reasonable basis for determining patentability. The artificial rules established to delineate that which was not "invention" were rejected as was the "new function" test of *Lincoln* and *A & P*. From the host of available expressions and tests, nonobviousness to one of ordinary skill in the art was chosen as the standard.

In adopting this frame of reference, the drafters revealed a preference for the earliest definitions of the third prerequisite of patentability, especially that set forth in *Hotchkiss v. Greenwood*.[81] While most cases deviated from the original judicial norm, some courts had adhered to it. The opinions of Judge Hand, speaking for the Second Circuit Court of Appeals, reflected sensitivity to the so-called "objective" evidence as tending to show what would or would not be within the skill of the calling.[82] This approach had

31 U.S.P.Q. 6 (2d Cir. 1936), *cert. denied*, 300 U.S. 665 (1937): "[I]t is always the combination which counts, and no patents, or almost none, are made from new elements." *Id.* at 541, 31 U.S.P.Q. at 10.

78. *See* Bailey, *A Proposal for: A Standard of Patentability; Consonant Statutory Changes: A Manual on Determination of Patentability*, 41 J.P.O.S. 192, 212-215 (1961).

79. The other requirements are utility, 35 U.S.C. § 101 (1964), and novelty, 35 U.S.C. § 102 (1964).

80. *See* Rich, *Congressional Intent—Or, Who Wrote the Patent Act of 1952* in PATENT PROCUREMENT AND EXPLOITATION 61, 70 (1963).

81. 52 U.S. (11 How.) 248 (1850).

82. *See* Safety Car Heating & Lighting Co. v. General Elec. Co., 115 F.2d 937, 69 U.S.P.Q. 401 (2d Cir. 1946); Ruben Condenser Co. v. Copeland Refrigeration Corp., 85 F.2d 537, 31 U.S.P.Q. 6 (2d Cir. 1936).

been adopted by other courts.[83] Despite increasing strictness on the part of the Supreme Court,[84] the Court of Customs and Patent Appeals continued to apply the test it deemed appropriate. *In re Shortell*[85] expressed that court's determination to "continue to hold that if a process or thing constitutes patentable subject matter, is new and useful, and the process performed or thing produced would not be obvious to one skilled in the art, invention should be presumed and a patent may properly issue therefrom."[86] Congress vindicated this approach by embodying the nonobviousness standard in the Patent Act of 1952. Section 103 of that Act provided:

> A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.[87]

The congressional intent in enacting the statutory standard was to afford uniformity in the determination of patentability, and the application of that criterion was expected to have a "stabilizing effect."[88] The legislators viewed the test of nonobviousness as a reasonable basis for distinguishing those inventions worthy of patent protection and considered it capable of consistent and predictable interpretation.

83. *See* text accompanying notes 45-63, *supra*.

84. *See* text accompanying notes 37-44, *supra*; Picard v. United Aircraft Corp., 128 F.2d 632, 53 U.S.P.Q. 563 (2d Cir. 1942):

> We cannot, moreover, ignore the fact that the Supreme Court, whose word is final, has for a decade or more shown an increasing disposition to raise the standard of originality necessary for a patent. In this we recognize "a pronounced new doctrinal trend" which it is our duty, cautiously to be sure, to follow, not to resist.

Id. at 636, 53 U.S.P.Q. at 567.

Observers subsequently acknowledged the harsher standards of the Supreme Court. Judge Hand, in a 1955 decision, referred to the requirements of the preceding thirty years as being higher than those established in *Hotchkiss*, with Cuno Corp. v. Automatic Devices Corp., 314 U.S. 84, 51 U.S.P.Q. 272 (1941) representing "probably . . . the furthest departure" therefrom. Lyon v. Bausch & Lomb Optical Co., 224 F.2d 530, 536, 106 U.S.P.Q. 1, 6 (2d Cir. 1955). Hand alluded to this in hearings before the Senate in 1955 when he stated that "[i]t was pretty well accepted, I think, that perhaps 20 or 30 years ago, the Supreme Court had adopted a very much stiffer rule about what was invention." *Hearing on S. Res. 92, supra* note 28, at 119.

Statistical data indicated that the circuits regarded the Supreme Court as taking a stricter view toward patents and followed the high court's lead. In the same 1955 Hearings, P.J. Federico presented a report which included the following data: "U.S. Circuit Court of Appeals decisions: Percent held invalid: 1925-29 (33.4%); 1930-34 (38.0%); 1935-39 (50.9%); 1940-44 (60.5%); 1945-49 (64.5%); 1950-54 (60.7%)." *Id.* at 182-83.

Later cases reflected a recognition of the increased strictness demanded by the Supreme Court. *See* R.M. Palmer Co. v. Luden's, Ind., 236 F.2d 496, 499, 111 U.S.P.Q. 1, 4 (3d Cir. 1955), *cert. denied*, 352 U.S. 824 (1956); Ellis, Inc. v. Denis, 224 F.2d 311, 312, 106 U.S.P.Q. 125, 126 (1st Cir. 1955); Trico Prods. Corp. v. Delman Corp., 180 F.2d 529, 533, 84 U.S.P.Q. 416, 420 (8th Cir. 1950); *cf.* Kwikset Locks, Inc. v. Hillgren, 210 F.2d 483, 100 U.S.P.Q. 289 (9th Cir. 1954).

85. 142 F.2d 292, 61 U.S.P.Q. 362 (C.C.P.A. 1944).

86. *Id.* at 296, 61 U.S.P.Q. at 367. The court further stated: "In our opinion it is not within the province of the courts to establish new standards by which invention is to be determined. . . . [That] would be judicial legislation and not judicial interpretation." *Id.*

87. 35 U.S.C. § 103 (1964).

88. S. REP. No. 1979, 82d Cong., 2d Sess. 6 (1952).

It has been argued that Congress intended section 103 merely to codify the law of "invention" espoused by the Supreme Court at the time of its passage.[89] The legislation itself, as well as the events surrounding its enactment, adequately refute this thesis. Section 103 cannot be considered a reaffirmation of the tests employed by the Supreme Court, since it was the application of these very tests, culminating in the decision in *A & P*, which convinced the drafters that the "invention" standard had to be discarded, thereby precipitating the remedial action embodied in that provision.[90] Furthermore, the Senate committee report referred to section 103 as one of the major "innovations"[91] in a statute generally designed "to revise and codify the laws relating to patents."[92]

To insure that nonobviousness would displace "invention" as the norm, the Act retained the term "invention," but assigned to it a meaning wholly inconsistent with the previous usage of the phrase. "Invention" was defined as the thing discovered or created[93] and sections 101-03 set forth the conditions for ascertaining whether a particular invention was patentable.[94] Thus, every issued patent was to be regarded as disclosing an invention, limiting judicial inquiry to determination of the patentability of that invention. Judge Rich, an author of the legislation[95] and a persistent critic of the application of the

89. *See* notes 103-14 *infra* and accompanying text.
90. *See* Rich, *Congressional Intent*, *supra* note 80.
91. S. REP. No. 1979, *supra* note 88, at 4.
92. *Id.* at 1.
93. 35 U.S.C. § 100 (1964).
94. Section 101, which specified the categories of subject matter considered to be within the purview of patent protection, was entitled "Inventions Patentable." 35 U.S.C. § 101 (1964). That usage distinguished "invention" from a requirement of patentability.
95. Congressional comment on the Act was rather scant. *See* Note, *The Standard of Patentability—Judicial Interpretation of Section 103 of the Patent Act*, 63 COLUM. L. REV. 306 (1963); Note, *Section 103 of the Patent Act and the Standards of Invention: Comments on Lyon v. Bausch & Lomb Optical Company*, 44 GEO. L.J. 100 (1955); Note, *Patent Law—Test of Invention*, 1956 WISC. L. REV. 513. It affords less insight into the legislative intent than do the views of the actual drafters of the legislation. These were not Congressmen, but rather patent practitioners. *See* Rich, *Congressional Intent*, *supra* note 80, at 73. Of these, Messrs. Federico, Rich, and Harris were the most prominent and qualified to relate the purpose of the statute. Indeed, in an address to the Patent, Trademark and Copyright Section of the American Bar Association, Mr. Crumpacker, a former Congressman and member of Subcommittee No. 3 of the House Committee on the Judiciary when hearings were held on H.R. 3760 (which matured into the Patent Act of 1952), advised that:

> When the courts, in seeking to interpret the language of the Act, go through the ritual of seeking to ascertain the "intent of Congress" in adopting same, they would do well to look to the writing of these men—Federico, Rich, Harris, and the others—as they, far more than any member of the House or Senate, knew and understood what was intended by the language used.

Crumpacker, *The Patent Act of 1952—A Congressional Perspective*, in SUMMARY OF PROCEEDINGS, A.B.A.—SECTION ON PATENTS, TRADEMARKS AND COPYRIGHT LAW 141, 143 (1962).

"invention" standard to determinations of patentability, stated emphatically that section 103 was included in the bill "in order to get rid of the vague requirement of 'invention.'"[96] As he observed: "Nowhere in the entire act is there any reference to a *requirement* of 'invention' and the drafters did this deliberately in an effort to free the law and lawyers from bondage to that old and meaningless term . . ."[97]

In one sense, it is accurate to label section 103 a "codification" of prior case law. The law which the provision codified, however, was that first announced in *Hotchkiss v. Greenwood* and later applied by some courts despite deviation by the Supreme Court. To view section 103 as reinforcing the High Court's subjective standards of patentability is to ignore the record and disregard the very purpose of its enactment.

Further examination of legislative intent indicates that the "nonobviousness" standard was considered productive of a more favorable climate for patent validity.[98] Judicial rulings under the aegis of "invention" increasingly tended to be adverse to the patentee.[99] As P.J. Federico, another author of the Act, noted:

> While it is not believed that Congress intended any radical change in the level of invention or patentable novelty, nevertheless, it is believed that some modification was intended in the direction of moderating the extreme degrees of strictness exhibited by a number of judicial opinions over the past dozen or more years; that is, that some change of attitude more favorable to patents was hoped for.[100]

Federico supported this conclusion by reference to the language of section 103: "[A] variety of expressions used in decisions were available . . . but the language selected was of the more moderate variety."[101] Moreover, the House committee report revealed that section 103 was intended to "'minimize great departures which have appeared in some cases.'"[102] As Federico correctly observed: "[T]he departures of which complaint has been made in the recent past are all departures in the direction of greater strictness and hence these would be what the report indicates should be minimized."[103]

96. Rich, *Congressional Intent*, *supra* note 80, at 70.
97. Rich, *Patentability*, *supra* note 2, at 495 (emphasis added). He further advised: "[T]he requirement of invention should be referred to, if at all, only with respect due to that which is dead." *Id.*
98. L. James Harris, another of the drafters, said:

> If a random sampling of the items included in the revision is taken, some rather convincing evidence can be adduced of Congressional intent to moderate the strict interpretation of the courts and to encourage the courts to take a more friendly attitude toward patents, a practice from which they had departed in certain cases.

Harris, *Some Aspects of the Underlying Legislative Intent of the Patent Act of 1952*, 23 GEO. WASH. L. REV. 658, 679 (1954). *See also* Chin, *The Statutory Standard of Invention: Section 103 of the 1952 Patent Act*, 3 PAT., T.M. & COPR. FOUND. J. 317 (1959).
99. *See* notes 37-44 & 84 *supra* and accompanying text.
100. Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. 1, 22-23 (1954).
101. *Id.* at 23.
102. H.R. REP. No. 7794, 82d Cong., 2d Sess. 7 (1952).
103. Federico, *New Patent Act*, *supra* note 100, at 23.

Judicial Interpretation

An early interpretation of the new statutory provision was provided by the Second Circuit in *Lyon v. Bausch & Lomb Optical Co.*[104] There, the patent was directed to a method of coating a lens in a vacuum which included the steps of preheating the optical surface, vaporizing the material to be deposited on the surface, and maintaining the lens in a heated condition during the deposition. Nowhere in the art was there a teaching of the expedient of heating the surface *during* the deposition. The invention yielded a lens with an adherent non-reflecting coating, a product diligently, but unsuccessfully, pursued for at least ten years by those skilled in the art. When it appeared, the process replaced the prevailing practice and substantially preempted the field. After weighing the patentee's evidence of long-felt need and commercial success, Judge Hand concluded: "We do not see how any combination of evidence could more completely demonstrate that, simple as it was, the change had not been obvious . . . to a person having ordinary skill in the art'—§ 103."[105]

The court's evaluation of the third prerequisite of patentability in terms of nonobviousness evidenced its recognition of the change effected by section 103. Indeed, Judge Hand asserted that

> had the case come up for decision within twenty, or perhaps, twenty-five, years before the Act of 1952 . . . it is almost certain that the claims would have been held invalid. The Courts of Appeal have very generally found in the recent opinions of the Supreme Court a disposition to insist upon a stricter test of invention than it used to apply—indefinite it is true, but indubitably stricter than that defined in § 103.[106]

Hand viewed section 103 as a codification of the test set forth in *Hotchkiss v. Greenwood*, which, if applied in the future, would relax the standards imposed by the Supreme Court in the years immediately preceding the Act and revive a uniformity long absent from the case law. In affirming this statutory purpose, he declared that "a legislature, whose will the courts have undertaken to proliferate, must be free to reinstate the courts' initial interpretation, even though it may have been obscured by a series of later comments whose upshot is at best hazy."[107]

Although the *Lyon* opinion was in harmony with both the plain language of section 103 and the legislative intent, Judge Hand's approach was not uniformly adopted. A number of courts, seizing upon the "codification" language of the Senate committee report,[108]

104. 221 F.2d 539, 106 U.S.P.Q. 1 (2d Cir.), *cert. denied*, 350 U.S. 911 (1955).
105. *Id.* at 535, 106 U.S.P.Q. at 5.
106. *Id.*
107. *Id.* at 537, 106 U.S.P.Q. at 7.
108. *See* S. REP. No. 1979, *supra*, note 88, at 1.

concluded that section 103 neither introduced a new test of patentability nor compelled a more moderate judicial disposition in evaluating patent validity. Accordingly, the opinions of these courts relied upon pre-1952 case law, such as *Lincoln* and *A & P* to test for the presence or absence of "invention."[109] A survey of appellate cases, decided after passage of section 103,[110] revealed that the First, Fifth, Sixth, Eighth and Ninth Circuits were of the opinion that no change was intended,[111] whereas the Third, Fourth and District of Columbia Circuits generally followed the Second Circuit in recognizing a new and more relaxed standard.[112] In reviewing the judicial attitude toward the new act, one court correctly characterized the divergence of opinion as a function of "the preexisting views of [each] tribunal as to the standard upon which it has determined patentability."[113] Uniformity, a primary goal of the 1952 Act, was thus frustrated by the failure of some courts to regard section 103 as controlling. Diversity of opinion flourished much as it had prior to passage of the Act.[114]

It was in light of this split among the circuits that the Supreme Court, in 1966, offered its interpretation of section 103. Choosing as its vehicle a trilogy of cases—*Graham v. John Deere Co.*,[115] *Calmar*,

109. *See* note 111 *infra*.
110. Note, *Standard of Patentability*, *supra* note 95, at 313-25.
111. *See* Selmix Dispensers, Inc. v. Multiplex Faucet Co., 277 F.2d 884, 125 U.S.P.Q. 378 (8th Cir. 1960); Caldwell v. Kirk Mfg. Co., 269 F.2d 506, 123 U.S.P.Q. 182 (8th Cir.), *cert. denied*, 361 U.S. 915 (1959); Wasserman v. Burgess & Blacher Co., 217 F.2d 402, 404, 103 U.S.P.Q. 368, 369 (1st Cir. 1954); Vincent v. Suni-Citrus Prods. Co., 215 F.2d 305, 315, 102 U.S.P.Q. 373, 381 (5th Cir. 1954) (dictum since effective date of § 103 subsequent to trial), *cert. denied*, 348 U.S. 952 (1955); Kwikset Locks, Inc. v. Hillgren, 210 F.2d 483, 100 U.S.P.Q. 289 (9th Cir.), *cert. denied*, 347 U.S. 989 (1954); General Motors Corp. v. Estate Stove Co., 203 F.2d 912, 918, 97 U.S.P.Q. 88, 92 (6th Cir.), *cert. denied*, 346 U.S. 822 (1953), *adopted in* Bobertz v. General Motors Corp., 228 F.2d 94, 99, 107 U.S.P.Q. 338, 341 (6th Cir. 1955), *cert. denied*, 352 U.S. 824 (1956); *cf.* Jeddeloh Bros. Sweed Mills, Inc. v. Coe Mfg. Co., 375 F.2d 85, 151 U.S.P.Q. 679 (9th Cir. 1967); Monroe Auto Equip. Co. v. Heckethorn Mfg. Co., 332 F.2d 406, 141 U.S.P.Q. 549 (6th Cir.), *cert. denied*, 379 U.S. 838 (1964); Ellis, Inc. v. Denis, 224 F.2d 311, 106 U.S.P.Q. 125 (1st Cir. 1955); Arnold Pipe Rentals Co. v. Engineering Enterprises, 350 F.2d 885, 889, 146 U.S.P.Q. 415, 418 (5th Cir. 1965); Stabler v. Bright Leaf Indus., 261 F.2d 383, 119 U.S.P.Q. 362 (5th Cir. 1958), *cert. denied*, 359 U.S. 960 (1959).
112. *See* Brown v. Brock, 240 F.2d 723, 728, 112 U.S.P.Q. 199, 203 (4th Cir. 1957); *cf.* Marvel Specialty Co. v. Bell Hosiery Mills, Inc., 330 F.2d 164, 141 U.S.P.Q. 269 (4th Cir.), *cert. denied*, 379 U.S. 899 (1964); R.M. Palmer Co. v. Luden's, Inc., 236 F.2d 496, 111 U.S.P.Q. 1 (3rd Cir 1956); L-O-F Glass Fibers Co. v. Watson, 228 F.2d 40, 107 U.S.P.Q. 197 (D.C. Cir. 1955) (appears to attempt to use obviousness standard although regards case law on "invention" viable after the act). *But see* Interstate Rubber Prods. Corp. v. Radiator Specialty Co., 214 F.2d 546, 548, 102 U.S.P.Q. 224, 226 (4th Cir. 1954). The Seventh and Tenth Circuits' views were regarded as unclear. Note, *Standard of Patentability*, *supra* note 95, at 322-23. Despite the Tenth Circuit's attempted application of the statute, neither court appeared to have recognized that a change was brought about by its passage. *See* Mott Corp. v. Sunflower Indus., Inc., 314 F.2d 872, 137 U.S.P.Q. 288 (10th Cir. 1963); Blish, Mize & Silliman Hardware Co. v. Time Saver Tools, Inc., 236 F.2d 913, 111 U.S.P.Q. 6 (10th Cir. 1956), *cert. denied*, 352 U.S. 1004 (1957); Blaw-Knox Co. v. I.D. Lain Co., 230 F.2d 373, 376, 108 U.S.P.Q. 356, 358 (7th Cir. 1956); Helms Prods. v. Lake Shore Mfg. Co., 227 F.2d 677, 683, 107 U.S.P.Q. 313, 317 (7th Cir. 1955).
113. R.M. Palmer Co. v. Luden's, Inc., 236 F.2d 496, 499, 111 U.S.P.Q. 1, 4 (3rd Cir. 1956).
114. *See* Note, *Standard of Patentability*, *supra* note 95, at 323.
115. 383 U.S. 1, 148 U.S.P.Q. 459 (1966).

Inc. and Colgate-Palmolive Co. v. Cook Chem. Co.,[116] and *United States v. Adams*[117]—the Court attempted to respond to the issues over which the courts of appeal had divided. In so doing, the Court essentially affirmed the position taken by Judge Hand in the *Lyon* opinion. Section 103 was held to be the applicable standard: "[W]e conclude here that the inquiry which the Patent Office and the courts must make as to patentability must be beamed with greater intensity on the requirement of section 103 . . . ."[118] The Court then set about defining the appropriate test by which to measure compliance with that standard.

Each of the three cases turned on the issue of nonobviousness. In *Graham*[119] and *Cook*[120] the inventions were found to be obvious and the patents in question held invalid. A contrary conclusion was reached in *Adams*.[121] Though the results differed, each opinion was marked by a carefully reasoned analysis focusing upon the question of obviousness or nonobviousness to one skilled in the art. The appropriate pattern of examination was set forth in *Graham*:

> [T]he scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the perinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc. might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.[122]

The Court considered this approach capable of fairly consistent application which would yield the predictability sought by section 103:[123] "We believe that strict observance of the requirements laid down here will result in that uniformity and definiteness which Congress called for in the 1952 Act."[124] Although the judge must ultimately reach a legal conclusion, he would be guided by consideration of factors reasonably determinable by factual proof, *e.g.* the prior art, the subject matter patented, the differences between them and the level of skill of those practicing the art. It is significant that whereas the language of section 103 lends itself to the test an-

116. *Id.*
117. 383 U.S. 39, 148 U.S.P.Q. 479 (1966). The three cases, *Graham*, *Cook* and *Adams*, are hereinafter collectively referred to as the *Trilogy*.
118. 383 U.S. at 19, 148 U.S.P.Q. at 467.
119. *Id.* at 25, 148 U.S.P.Q. at 470.
120. *Id.* at 37, 148 U.S.P.Q. at 474.
121. *Id.* at 51, 148 U.S.P.Q. at 483.
122. *Id.* at 17, 148 U.S.P.Q. at 467.
123. *See* notes 79-92 *supra*, and accompanying text.
124. 383 U.S. at 18, 148 U.S.P.Q. at 467.

nounced by the Court, the "requirement of 'invention'" suggests no particular method of determination. Indeed, the Court cited with approval its earlier observation that 'the word ['invention'] cannot be defined in such a manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not."[125]

The *Trilogy* was in further agreement with *Lyon* on the issue of the relevance of nontechnical evidence[126]—the so-called "secondary considerations."[127] Such factors are quite susceptible to factual determination, and where they reasonably evidence the level of skill in the pertinent art, or tend to demonstrate that the difference between the prior art and the claimed invention is greater than the level of skill in the art, they are to be given evidentiary weight.

The application of these principles can best be gleaned from the *Adams* case where the validity of the patent on a battery composed of magnesium and cuprous chloride electrodes was affirmed. The invention was truly revolutionary in that it was the first practical, operative constant-voltage battery which used plain water rather than the electroytes traditionally employed.[128] The invention, however, was extremely "close" to the prior art which suggested the equivalence of its electrode materials to those previously used. The Court was impressed with evidence of the battery's unexpected results, the previous failure of prior art teachings to yield operative devices and noted experts' initial expressions of disbelief in the success of such an invention.[129] Despite its apparent structural similarity to prior devices, consideration of *all* evidence led the Court to conclude that the invention was not obvious.[130]

The expressed relevance of the "secondary considerations" in the determination of nonobviousness and the impact of their application in *Adams* was in striking contrast to the Court's prior standards for the determination of "invention."[131] By stating that "[t]he emphasis on non-obviousness is one of inquiry. . . ."[132] the Court acknowledged

125. *Id.* at 11-12, 148 U.S.P.Q. at 464, citing McClain v. Ortmayer, 141 U.S. 419, 427 (1891).
126. This was the "objective" or nontechnical body of evidence employed by some courts both prior to and after the 1952 act as an aid in making the difficult technical decisions required for the resolution of patent contests. *See* notes 45-63 *supra*, and accompanying text; Note, "*Nonobviousness*", note 17, *supra*.
127. 383 U.S. at 17, 148 U.S.P.Q. at 467. These evidentiary considerations are "secondary" in the sense that they occupy a different level in the hierarchy of legal and factual conclusions. Obviousness is the ultimate issue; the claimed invention, prior art, level of skill in the pertinent art, and difference between the prior art and claimed invention as compared to the level of skill in the art are all sub-issues preliminary to the determination of obviousness. To resolve the crucial sub-issues a court entertains factual evidence such as the claims, specification and file history of the patent, prior patents, publications and testimony of those skilled in the art and any other facts such as commercial success and long-felt need.
128. 383 U.S. at 43, 148 U.S.P.Q. at 480.
129. *Id.* at 51-52, 148 U.S.P.Q. at 483-84.
130. For commentary on the *Trilogy*, see Kayton, *This Year (1966) in Patent Law*, 35 GEO. WASH. L. REV. 720, 721-25 (1966).
131. *See* notes 29-44, 64-78 *supra*, and accompanying text.
132. 383 U.S. at 17, 148 U.S.P.Q. at 467.

that the pattern of analysis, which it had outlined in *Graham*, was the very essence of the nonobviousness test. The application of that pattern in the *Trilogy* reflected the change necessitated by the test defined by Congress in section 103.[133] The Court insisted, however, that the change was one of "inquiry, not quality"[134] and that section 103 was intended to codify judicial precedents rather than alter the level of patentability.[135] In short, its conclusion was that while section 103 provided a new test, it did not mandate a more moderate judicial attitude. That position seemed inconsistent with the legislative intent. The issue was mooted, however, by the Court's substantive interpretation of section 103 and utilization of its pattern of factual analysis. The very application of the *Trilogy* analysis would tend to moderate the pre-1952 level of patentability by effecting predictable results. It provided, as the Court suggested, "a more practical test of patentability"[136] productive of objective evaluation and increased liberality in the consideration of the patentee's evidence.

After The Trilogy

In general, the courts of appeal responded to the *Trilogy* analysis by directing attention to the requirements of section 103.[137] A First

133. *See* notes 79-103 *supra*, and accompanying text.
134. 383 U.S. at 17, 148 U.S.P.Q. at 467.
135. *Id.*, 148 U.S.P.Q. at 466. It is interesting to note that the Court also denied that it had taken an increasingly strict posture during those years preceding the act. 383 U.S. at 19, 148 U.S.P.Q. at 467. Such a belief would tend to prevent the Court's acceptance of statutory moderation of case law standards since prior judicial strictness was a fundamental premise of the relaxation theory. *See* Lyon v. Bausch & Lomb Optical Co., 224 F.2d 530, 536, 106 U.S.P.Q. 1, 6 (2d Cir.), *cert. denied*, 350 U.S. 911 (1955). However, there is evidence that observers viewed such decisions as *Lincoln*, *Cuno* and *A & P* as deviations from earlier opinions. *See* notes 98-103 *supra*, and accompanying text. More importantly, the circuit courts of appeal viewed those decisions by the high court as having raised the level of patentability. See notes 37, 38 & 84 *supra*.
136. 383 U.S. at 17, 148 U.S.P.Q. at 467.
137. *See* University of Ill. Foundation v. Winegard Co., 402 F.2d 125, 159 U.S.P.Q. 129 (8th Cir. 1968), *cert. denied*, 394 U.S. 917 (1969); Kaiser Ind. Corp. v. McLouth Steel Corp., 400 F.2d 36, 158 U.S.P.Q. 565 (6th Cir. 1968), *cert. denied*, 393 U.S. 1119 (1969); Commissioner v. Deutsche Goldund-Silber-Scheideanstalt, 397 F.2d 636, 157 U.S.P.Q. 549 (D.C. Cir. 1968); Colourpicture Publishers, Inc. v. Mike Roberts Prods., Inc., 394 F.2d 431, 157 U.S.P.Q. 659 (1st Cir. 1968), *cert. denied*, 393 U.S. 848 (1969); National Connector Corp. v. Malco Mfg. Co., 392 F.2d 766, 157 U.S.P.Q. 401 (8th Cir.), *cert. denied*, 393 U.S. 923 (1968); Preuss v. General Elec. Co., 392 F.2d 29, 157 U.S.P.Q. 177 (2d Cir. 1968), *cert. denied*, 393 U.S. 831 (1969); Greening Nursery Co. v. J & R Tool & Mfg. Co., 376 F.2d 738, 153 U.S.P.Q. 660 (8th Cir. 1967); Sisko v. Southern Resin & Fiberglass Corp., 373 F.2d 866, 152 U.S.P.Q. 7 (5th Cir.), *cert. denied*, 389 U.S. 824 (1967); Ling-Temco-Vought, Inc. v. Kollsman Instrument Corp., 372 F.2d 263, 152 U.S.P.Q. 446 (2d Cir. 1967); Skee-Trainer, Inc. v. Garelick Mfg. Co., 361 F.2d 895, 150 U.S.P.Q. 7 (8th Cir. 1966); Jones Knitting Corp. v. Morgan, 361 F.2d 451, 149 U.S.P.Q. 659 (3d Cir. 1966). Despite the fact that the courts looked to section 103 more closely and couched their analysis in terms of obviousness or nonobviousness to one of ordinary skill in the art, some cases reflected adherence to the notion that section 103 was little more than a restatement of case law using the phrase "nonobviousness" as a synonym of "invention." *See* B.F. Goodrich Co. v. Rubber Latex Prods., Inc., 400 F.2d 401, 405, 158 U.S.P.Q. 513, 516 (6th Cir. 1968); Higley v. Brenner, 387 F.2d 855, 858, 155 U.S.P.Q. 481, 484 (D.C. Cir. 1967) (claimed invention nonobvious); Ludwig Drum Co. v. Solar Musical Instrument Co., 376 F.2d 827, 830, 153 U.S.P.Q. 579, 580 (6th Cir. 1967); *cf.* Carson v. Bland, 398 F.2d 423, 158 U.S.P.Q. 529 (10th Cir. 1968); Schmidinger v. Walsh, 383 F.2d 455, 155 U.S.P.Q. 289 (3d Cir. 1967), *cert. denied*, 390 U.S. 946 (1968) (claimed invention found to be nonobvious); Borden Co. v. Clearfield Cheese Co., 369 F.2d 96, 152 U.S.P.Q. 369 (3d Cir. 1966) (summary judgment of invalidity reversed on the finding that the issue of obviousness had not been adequately treated).
In addition, there was a general reluctance to give significant weight to the so-called "secondary considerations" even where nonobviousness was the standard applied. *See* Kaiser Indus. Corp. v. McLouth Steel Corp., 400 F.2d 36, 158 U.S.P.Q. 565 (6th Cir. 1968), *cert. denied*, 393 U.S. 1119 (1969); National Connector Corp. v. Malco Mfg. Co., 392 F.2d 766, 157 U.S.P.Q. 401 (8th Cir.), *cert. denied*, 393 U.S. 923 (1968); *Greening Nursery Co. v. J & R Tool & Mfg. Co.*, 376 F.2d 738, 153 U.S.P.Q. 660 (8th Cir. 1967).
138. Colourpicture Publishers, Inc. v. Mike Roberts Prods., Inc., 394 F.2d 431, 434, 157 U.S.P.Q. 659, 661 (1st Cir. 1968).
139. Hensley Equip. Co. v. Esco Corp., 383 F.2d 252, 258 n.10, 155 U.S.P.Q. 183, 187 n.10 (5th Cir. 1967).
140. *Id.* at 258, 155 U.S.P.Q. at 187.

Circuit opinion, reversing a summary judgment of invalidity, evidenced this new attitude: "[I]t is apparent that the [district] court's conclusory comments as to 'lack of invention' fall short of that 'strict observance' of Graham's emphasis on an inquiry 'beamed with greater intensity on the requirements of § 103.' "[138] Seeking conformity with the *Graham* statement of the nonobviousness test, the Fifth Circuit stated:

> It is desirable that the district courts make specific findings on the factual matters which the Supreme Court, in Graham v. John Deere Co. . . . held determined obviousness: the state of the prior art, the level of ordinary skill in the art, and the difference between the prior art and the claims of the patent at issue.[139]

Moreover, that court specifically approved the district court's utilization of the "secondary indicia of commercial success and industry recognition of satisfaction of unsolved needs, referred to in *John Deere*."[140]

The *Trilogy* appeared to have subdued the conflict which had previously existed among the courts of appeal. By stressing the nonobviousness language of section 103 and delineating the pattern of analysis to be utilized in testing for the presence of this third statutory prerequisite of patentability, the Supreme Court had effectively disposed of the old tests of "invention." It was against that background of increasing appreciation of the *Trilogy* guidelines that *Black Rock* came to the district court.

Anderson's-Black Rock, Inc. v. Pavement Salvage Co.

In The Lower Courts

The asphalt paving industry had long been plagued with the problem of a deficient joint produced when a fresh strip of pavement was laid

next to another that was cold. Heating, and thereby softening, the side of the strip already in place was known to encourage a good bond between the fresh and the old strips. Means of heating the asphalt, however, were inadequate. The patent in *Pavement Salvage Co. v. Anderson's-Black Rock, Inc.*[141] was drawn to a paving apparatus which included a heater capable of emitting highly penetrative radiant energy. The prior art disclosed the use of radiant heat to facilitate the bonding of asphalt. The specific heater used by the patentee was a prior art radiant heater; it was neither new nor patentable.

Testing the combination of paver and heater against the standards set forth in *Lincoln* and *A & P*, the district court concluded that combined the elements functioned as they did in tandem and held the patent invalid.[142] The patentee's assertions of commercial success and long-felt need were deemed unavailing in the absence of "invention."[143]

Responding to the *Trilogy* guidelines the Fourth Circuit reversed the district court's decision.[144] Rather than speaking in terms of old elements and combinations thereof, and tests which reveal little as to the obviousness of uniting them, the court posed this issue: "[T]he question is whether, in light of the availability of more efficient radiant energy generators, the answer obviously lay in the theretofore unworkable and discarded art of heat treatment."[145] The error of the lower court lay in its assumption that the problem could be solved by heat treatment with the specific radiant energy source. Acknowledging earlier use of radiant heaters in asphalt bonding, the Fourth Circuit noted that those employed had been ineffective because of their inability to yield sufficient penetrative heat.[146] The majority reasoned:

> Had it been known that the result could be achieved by a generator and a paving machine handled separately but cooperatively, combining the two in one machine for the sake of convenience would have been an obvious step, but that was not known. Neville [the patentee] supplied the whole answer which had completely eluded the industry. His contribution cannot be judged without reference to its salient feature, disclosure of the fact that the solution lay in the use of a specified kind of infra-

141. 404 F.2d 450, 159 U.S.P.Q. 513 (4th Cir. 1968).
142. *Id.* at 455-56, 159 U.S.P.Q. at 517. The district court opinion was unpublished. The dissent to the appellate court opinion, however, adopted the lower court position and reproduced portions of the unpublished decision. *Id.* at 454-55, 159 U.S.P.Q. at 516-17.
143. *Id.* at 455, 159 U.S.P.Q. at 517.
144. 404 F.2d 450, 159 U.S.P.Q. 513 (4th Cir. 1968).
145. *Id.* at 452, 159 U.S.P.Q. at 514.
146. *Id.* at 451, 159 U.S.P.Q. at 514.

red generator in combination with the basic paving machine.[147]

The Court of Appeals was impressed with evidence of the need for the apparatus, the continuing efforts to satisfy that need, the incredulity of those skilled in the art when originally confronted with the invention and its substantial success once the industry was convinced that it worked as claimed. In contrast to the trial court, the majority considered that evidence relevant "'indicia of obviousness or nonobviousness'" as recognized by *Graham*.[148] Thus, after applying the *Trilogy* analysis the court concluded that it would not have been obvious to one of ordinary skill in the art to select the particular claimed radiant heater as the source of heat in the asphalt paving machine.[149] As nonobviousness was the salient test, the invention was patentable.

In the Supreme Court

The Fourth Circuit opinion represented an able application of the test of nonobviousness. Its review would have been an excellent opportunity for the Supreme Court to reaffirm the standards of section 103 set forth in the *Trilogy*—particularly as they related to mechanical combinations—and to quell the vitality of the tests of "invention" stated in *Lincoln* and *A & P*. Indeed, certiorari was granted,[150] but the result was not a restatement of *Graham*. To the contrary, in an almost incredible reversal of position, the old tests of "invention" were elevated to the status of new tests of patentability, and the plain language of section 103, the legislative purpose and the Court's previous construction were nullified.

The Court, speaking through Justice Douglas, applied a test of patentability bearing little similarity to that outlined in the *Trilogy*. By limiting inquiry to determination of whether the elements functioned in combination in any manner different from the way they would function in tandem,[151] Justice Douglas joined in the district court's assumption that the use of the specific radiant heater in the process of paving asphalt was known,[152] thereby regarding patentability as pivoting on the distinction between elements combined on one chassis and those maintained apart.[153] Unless

147. *Id.* at 454, 159 U.S.P.Q. at 516.
148. *Id.* at 452, 159 U.S.P.Q. at 514.
149. *Id.* at 454, 159 U.S.P.Q. at 516.
150. 394 U.S. 916 (1969).
151. 396 U.S. at 60, 163 U.S.P.Q. at 674.
152. The Court said that "experts tendered by respondent testified that they had been doubtful that radiant heat would solve the problem of the cold joint. But radiant heat was old in the art." 396 U.S. at 59-60, 163 U.S.P.Q. at 674. The court of appeals had acknowledged that radiant heat was taught in the art, but on the basis of the evidence found that those skilled in the art had turned away from the heat treatment to pursue other means of solving the problem. The specific radiant heater claimed and not disclosed in the paving art was found to produce the solution, and therefore the court of appeals regarded as nonobvious the selection of that heater for use with the standard paving gear. The Supreme Court did not respond to this reasoning, but rather proceeded from the premise that the particular radiant energy generator was recognized as useful in the paving of asphalt.
153. *Id.* at 60, 163 U.S.P.Q. at 674.

the elements in some way affected one another so that the effect produced by the whole exceeded the sum of the individual effects of its component parts, there was no "invention."[154] This was the test of *Lincoln* and *A & P*[155] and was as inappropriate to determination of the obviousness of the combination in 1969 as it had been before the 1952 Act.

Graham, however, was not ignored in the Court's opinion. After concluding that the patent was invalid under the old test of "invention," the Court justified its holding by citing *Graham* as authority for the propositon that section 103 merely codified the prior case law.[156] Finally, the *Graham* test of nonobviousness was quoted, but never actually applied. Without additional explication, the Court summarily concluded that "to those skilled in the art the use of the old elements in combination was not an *invention* by the obvious-nonobvious standard."[157] It is apparent that the Court resolved the validity of the patent on the basis of "invention." This is a plain reversal of the *Trilogy* instruction to emphasize the nonobviousness test of section 103.

While the Fourth Circuit was persuaded by nontechnical evidence, the Supreme Court treated such "secondary considerations" as irrelevant. The Court resorted to *A & P* for the proposition that these matters "without invention will not make patentability."[158] This view also represents a complete reversal of the *Trilogy*, as the Court there indicated that such factors were to be considered in the course of rendering a decision on obviousness.

In the final analysis, though *Lincoln*, *A & P*, section 103 and *Graham* all appear in the same opinion, they cannot co-exist in the determination of patent validity.. The vague usage of "invention" to define patentable subject matter is not the same as the pattern of

154. *Id.* at 61, 163 U.S.P.Q. at 674.
155. *Id.* at 60-61, 163 U.S.P.Q. at 674.
156. *Id.* at 62, 163 U.S.P.Q. at 675.
157. *Id.* (emphasis added). The Court made reference to 35 U.S.C. § 101 (1964) in note 4, asserting that "[a]bsent here is the element 'new' . . . [since] the combination added nothing to the inherent characteristics or function of the radiant burner." Then, the Court *further* concluded that the invention was obvious. It appears that invalidity was grounded on a lack of novelty, 35 U.S.C. § 102 (1964), yet the record was clear that although the elements were known per se, their combination was not directly taught in the prior art. The inquiry should therefore have been conducted under section 103.
The Court intimated that § 101 was the appropriate provision for determination of the validity of combination patents, although §§ 102 and 103 prescribe the specific circumstances under which the invention lacks novelty or is obvious. In view of these sections, there is really no need to speak in terms of combinations of old elements; there is no basis for distinguishing them from other inventions nor for holding them to a higher standard of patentability. The standards expressed in § 103 are applicable to all inventions, whether the prior art is extensive and close or sparse and unrelated.
158. *Id.* at 61, 163 U.S.P.Q. at 674.

analysis inherent in the determination of obviousness or nonobviousness set forth in section 103 and clarified in the *Trilogy*.[159] The revitalization of pre-1952 standards with all their inadequacies can occur only at the sacrifice of the advantages which flow from the statute. The problems which confronted the patentee before the 1952 legislation—absence of predictability in the approach adopted by the courts, inability to rely on evidence which logically establishes the degree of advance in the art represented by his invention, substantial likelihood of a finding of invalidity—will surely plague him again. The *Black Rock* decision essentially turns the clock back to that era by adopting the law as it was prior to the enactment of section 103.

After Black Rock

The *Black Rock* opinion appears to have already had some impact on the courts, and predictable trends are discernible even now. *Black Rock* and the *Trilogy* are clearly at odds on the issue of the relevance of the "secondary considerations." In *Stevenson v. Diebold, Inc.*,[160] the Ninth Circuit concluded that plaintiff's conveying device was an obvious development in light of a similar, previously patented invention. Although both machines were attempts at accomplishing the same result, the plaintiff's invention succeeded where the other had failed. The claimed device enjoyed commercial success and, as the court observed, most of the earlier machines were converted into the type developed by the plaintiff. The court, however, relying upon *Black Rock* to support its disregard of plaintiff's "secondary" evidence of nonobviousness,[161] concluded that the plaintiff's device was simply a modification of the prior invention, made obvious by the prior teaching of a third party.

The *Black Rock* position cannot be confined to commercial success but will rather be assumed to apply to the spectrum of "nontechnical" evidence. Conversion of the machines in the *Sterenson* case is an example of such evidence.[162] In another Ninth Circuit case, *Bada Co. v. Montgomery Ward & Co.*,[163] the authority of *Black Rock* was invoked to justify the court's conclusion of obviousness in the face of conceded commercial success and solution of what had been a problem in the pertinent industry.[164] While some cases decided since *Black Rock* have regarded such evidence as relevant,[165] it is diffi-

159. *See* notes 115-36 *supra*, and accompanying text.
160. 422 F.2d 1228, 165 U.S.P.Q. 10 (9th Cir. 1970).
161. *Id.* at 1233, 165 U.S.P.Q. at 14.
162. *See* notes 45-63 *supra*, and accompanying text; Note, "Nonobviousness", note 17 *supra*.
163. 426 F.2d 8, 165 U.S.P.Q. 483 (9th Cir. 1970).
164. *Id.* at 10, 165 U.S.P.Q. at 484.
165. *Cf.* National Athletic Supply Corp. v. Tone-O-Matic Prods., 421 F.2d 407, 164 U.S.P.Q. 330 (5th Cir. 1970); Technograph Printed Circuits Ltd. v. United States; — F.2d —, 164 U.S.P.Q. 584 (Ct. Cl. 1970); Brown v. Myerberg, — F. Supp. —, 164 U.S.P.Q. 505 (S.D.N.Y. 1970); Nashua Corp. v. RCA Corp., 307 F. Supp. 152, 165 U.S.P.Q. 89 (D.N.H. 1969).

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cult to reconcile that reasoning with the position of the Supreme Court as expressed in *Black Rock*. Most courts, it is submitted, will follow the lead of the High Court.

Erosion of the viability of these "secondary considerations," as proof of nonobviousness, can be expected to increase the likelihood that courts will grant summary judgments of invalidity. In *Palmer v. United States*,[166] the Court of Claims denied the government's motion for summary judgment holding that "plaintiffs are entitled to their day in court to make out what case they can for unobviousness."[167] The court's conclusion, however, was premised upon acceptance of commercial success and satisfaction of long-felt need as evidence of nonobviousness.[168] Similarly, in *Faraday, Inc. v. Audio Devices, Inc.*,[169] a district court concluded that under the rule announced in *Graham* such considerations were germane "even if they cannot 'breathe life' into a patent otherwise invalid."[170] Despite its failure to delineate the weight to be given these factors, the court indicated that the presence of such evidence would discourage it from granting summary judgment.[171] It is suggested, however, that if the position in *Black Rock* is taken to its logical extreme, courts will hold all such evidence irrelevant and grant summary judgment more readily.[172] This would appear to be the view adopted in *Pacific International Plastics v. Sterling Plastics Corp.*[173] There, the court, ignoring affidavits filed in support of the patentee's claim of commercial success, declared that consideration of such evidence "could not affect the result."[174]

Just as the holdings in *Lincoln* and *A & P* could not have been limited to patents claiming combinations of mechanical elements, it would be unsound to so confine *Black Rock*. Recent cases reflect a growing recognition of the sweeping significance of the combination concept. In *Bada Co. v. Montgomery Ward & Co.*,[175] the invention was a four-step method of balancing automobile tires. After citing the prior art which, in the court's opinion, disclosed the individual steps but not the claimed combination thereof, it characterized the invention as "merely a combination of known prior art elements."[176] Similarly, in *Indiana General Corp. v. Krystinel Corp.*,[177] chemical combinations were equated with mechanical combinations,[178] and in *Deere Ltd. v. United States*,[179] the Court of Claims analogized combinations in the electrical field to those of the type considered in *Black Rock*.[180] Thus, the *Black Rock* doctrine has broad applicability, extending to virtually every patent suit.

Perhaps the most dire consequence of *Black Rock* is the judicial attitude it establishes toward questions of patent validity. The Ninth Circuit recognized the posture assumed by the Supreme Court when, in *George J. Meyer Manufacturing Co. v. San Marino Electronic Corp.*,[181] it affirmed the trial court's conclusion of invalidity for obviousness, stating: "The result reached . . . is in accord with the statutory requirement of nonobviousness and the 'strict observance' of the statute required by the recent decisions of the Supreme Court."[182] Only *Black Rock* was cited and the court implied that the decision there compelled a "strict" construction of section 103, "strict" meaning adverse to patentees. As used in *Graham*, "strict" observance of section 103 was the Court's direction to the Patent Office and the courts to discontinue their practice of rendering decisions on the basis of the harsher and less objective pre-1952 "invention" standard, and instead follow the statutory guidelines.[183] *Black Rock* has totally reversed that command and from *Meyer Manufacturing* it appears that at least one court of appeals reads the Supreme Court as taking a discordant view toward patent validity.[184] Other courts will be likely to adopt this attitude.

A recent district court case provides a good example of how a patentee can be faced with an apparent presumption of invalidity where the appellate courts have reflected a hostile judicial attitude toward patents. In *Woodstream Corp. v. Herter's Inc.*,[185] the inventions of the two patents in suit were animal traps. The court indicated that the traps were substantial improvements over previous traps, were significantly more humane and enjoyed considerable commercial success. Ultimately, the court found the inventions

166 — F. Supp. —, 155 U.S.P.Q. 524 (Ct. Cl. 1967), *aff'd*, 182 Ct. Cl. 896, 156 U.S.P.Q. 689 (1968).
167. *Id.* at —, 155 U.S.P.Q. at 528.
168. *Id.* at —, 155 U.S.P.Q. at 527.
169. — F. Supp. —, 165 U.S.P.Q. 634 (S.D.N.Y. 1970).
170. *Id.* at —, 165 U.S.P.Q. at 638.
171. "That there is evidence of commercial success or failure may at least require added caution on a motion for summary judgement." *Id.* at —, 165 U.S.P.Q. at 638. *See* Colourpicture Publishers, Inc. v. Mike Roberts Color Prods., Inc., 394 F.2d 431, 157 U.S.P.Q. 659 (1st Cir. 1968).
172. Of course, those courts which continue to give full weight to nontechnical considerations will surely follow the reasoning of *Palmer*.
173. 305 F. Supp. 1341, 164 U.S.P.Q. 35 (C.D. Cal. 1969).
174. *Id.* at 1344, 164 U.S.P.Q. at 38.
175. 426 F.2d 8, 165 U.S.P.Q. 483 (9th Cir. 1970).
176. *Id.* at 10, 165 U.S.P.Q. at 484.
177. 421 F.2d 1023, 164 U.S.P.Q. 321 (2d Cir. 1970).
178. *Id.* at 1033, 164 U.S.P.Q. at 329.
179. 420 F.2d 1010, 164 U.S.P.Q. 348 (Ct. Cl. 1970).
180. *Id.* at 1024, 165 U.S.P.Q. 359.
181. 422 F.2d 1285, 165 U.S.P.Q. 23 (9th Cir. 1970).
182. *Id.* at 1289, 165 U.S.P.Q. at 27.
183. *See* Graham v. John Deere Co., 383 U.S. 1, 17, 148 U.S.P.Q. 459, 466 (1966); *see* notes 115-36 *supra*, and accompanying text.
184. *Meyer Manufacturing* is but one of a string of Ninth Circuit cases holding the patent in suit invalid. Others decided since the *Black Rock* opinion was handed down are: Bada Co. v. Montgomery Ward & Co., 426 F.2d 8, 165 U.S.P.Q. 483 (9th Cir. 1970); Stevenson v. Diebold, Inc., 422 F.2d 1228, 165 U.S.P.Q. 10 (9th Cir. 1970); Hamlow v. Scientific Glass Apparatus Corp., — F.2d —, 164 U.S.P.Q. 340 (9th Cir. 1970); Spring Crest Co. v. American Beauti Pleat, Inc., 420 F.2d 950, 164 U.S.P.Q. 281 (9th Cir. 1970); Carborundum Co. v. Wilbanks, Inc., 420 F.2d 43, 164 U.S.P.Q. 271 (9th Cir. 1969).
185. 312 F. Supp. 369, 165 U.S.P.Q. 609 (D. Minn. 1970).

obvious, noting the absence of a "'flash of creative genius.'"[186] Initially, however, the court observed that:

> The courtrooms within the province of the Eighth Circuit Court of Appeals do not afford a congenial forum to the holder of a United States patent. A reading of the decided cases clearly reflects this. . . . I can find no record of the Eighth Circuit Court of Appeals upholding the validity of a patent since Graham. It did so sparingly before Graham.[187]

It is submitted that this recognition of adversity toward patents by appellate courts and the concomitant likelihood of reversal in the event validity were upheld, prejudices those courts against the patentee. In view of the atmosphere created by the Supreme Court in *Black Rock*, it may not be long before all the courts will be paraphrasing the district court in *Woodstream* and acknowledging that "the courts of the United States do not afford a congenial forum to the holder of a United States patent."

Conclusion

While the response of a particular court may not be predicted with absolute certainty, it may be presumed that *Black Rock* will revive the divergence once prevalent among the circuits. The availability of a broad spectrum of language, ranging from the tests of *Lincoln* to the analysis of the *Trilogy*, places a patentee in the impossible position of attempting to estimate the strength of the case he must make to secure a patent. Further, the rigorous position taken in *Black Rock* seriously jeopardizes existing patents. This is precisely the situation which preceded the 1952 Act and prompted its enactment. Just as Congress was then the only body capable of affording relief, so it appears to be now. If Congress acts, however, it should make clear its policy with regard to the patent system and offer no opportunity for a further re-vitalization of the old tests of "invention." Recognizing that courts will seek means of relying on *Lincoln*, *A & P* and now *Black Rock*, the tests of validity espoused by these cases should be expressly discarded. Prompt and decisive action by Congress is mandatory if we are to retain a viable patent system.

Herbert Mintz
Charles L. O'Rourke

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186. *Id.* at 373, 165 U.S.P.Q. at 612. It is particularly disturbing to see the "flash of genius" rhetoric of Cuno Eng'r Corp. v. Automatic Devices Corp., 314 U.S. 84, 51 U.S.P.Q. 272 (1941), which was discarded by the second sentence of section 103. *See* Harris, *Legislative Intent*, *supra* note 98, at 679.

187. 312 F. Supp. at 371, 165 U.S.P.Q. at 610. The Court listed 14 Eighth Circuit cases decided between 1966 and 1969 in which the patents were held invalid. *Id.* at 371 n.1, 165 U.S.P.Q. at 610 n.1.

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In The

SUPREME COURT OF THE UNITED STATES

October Term, 1975

No. 75-110

BERNARD A. SAKRAIDA,

Petitioner,

versus

AG PRO, INC.,

Respondent.

BRIEF FOR RESPONDENT IN OPPOSITION

On Petition for a Writ of Certiorari
to the United States Court of Appeals
for the Fifth Circuit

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OPINIONS BELOW

Three different panels of the court of appeals have handed down decisions in this case as follows: 437 F.2d 99 (1971); 474 F.2d 167 (1973); on rehearing 481 F.2d 668 (1973); ____ F.2d _____, 185 U.S.P.Q. 642 (1975).

JURISDICTION

The jurisdictional requisites are adequately set forth in the Petition.

QUESTION PRESENTED

Whether a valid patent can be issued

for a new combination of old elements which produces a synergistic result that is a vast improvement over anything which previously existed in the particular art.

STATEMENT OF THE CASE

This case involves validity of Gribble and Bennett patent 3,223,070 for a dairy barn construction. The claims in issue define the construction and arrangement of the floor areas of a dairy barn and the means for storing a volume of water on, or immediately above, the floor so that when the water is suddenly released, it will clean all of the barn floor areas without the use of any hand labor. The patented invention for the first time provided a means for thoroughly cleaning all barn floor areas in a matter of a few minutes, where previously it took hours of disagreeable hand labor and the use of large quantities of water to achieve an inferior result (474 F.2d at 169; App. II 84-90, 211-116, 257-59).

In all of the prior appeals and petitions for rehearing, petitioner strenuously argued that the Gribble and Bennett patent should be invalidated because it is admittedly made up of a combination of old elements. The same erroneous argument forms the basis of the present Petition.

REASONS FOR DENYING THE PETITION

1. There is no conflict with the applicable decisions of this Court.

Contrary to petitioner's argument, the cases he relies on expressly recognize that a valid patent can be issued for a combination of old elements where they combine to produce a synergistic result or one which is superior or different from what existed previously. See *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U.S. 545, 549, 82 L.Ed. 1008, 1010 (1938); *Great A. & P. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152, 95 L.Ed. 162, 166 (1950); *Anderson's-Black Rock v. Pavement Salvage Co.*, 396 U.S. 57, 61, 24 L.Ed.2d 258, 261 (1969). This Court, in *United States v. Adams*, 383 U.S. 39, 51-52, 15 L.Ed.2d 572, 580 (1966) most recently upheld validity of an invention made up of a combination of old elements where the evidence showed, as it does in the present case, that the combination was not obvious to one of ordinary skill in the art.

Graham v. John Deere Co., 383 U.S. 1, 15 L.Ed.2d 545 (1966) set forth the factual determinations which must be made by a court where the defense of obviousness under 35 U.S.C. § 103 has been raised, i.e., (1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, and (3) the level of ordinary skill in the pertinent art. The district

court in the present case failed to make any such determinations and literally signed the findings submitted by petitioner without even correcting obvious errors. The court of appeals, however, in its opinion (474 F.2d 169 et. seq.) meticulously reviewed the factual aspects of the case in accordance with the requirements of the *Graham* case and concluded that the Gribble and Bennett patent was valid.

Since 1971 three different panels of the court of appeals have handed down decisions affecting validity of the Gribble and Bennett patent. Before each panel petitioner raised the same arguments as are now presented in the Petition. In each instance the court of appeals declined to invalidate the patent and ultimately upheld it as a valid patent even after granting petitioner the extraordinary remedy of a new trial on allegedly newly discovered evidence. Petitioner's dissatisfaction with these decisions is no basis for granting a petition for writ of certiorari which raises no conflict with the decisions of this Court which have uniformly decided the question presented in the Petition unfavorably to petitioner.

The subsidiary points raised in the Petition of overclaiming and conflict with Rule 52, Fed. R. Civ. P. (Pet. p. 16) are no more well taken than the principal point.

2. There is no overclaiming.

There is no overclaiming because in

order to produce the inventive result, it is necessary to include in the claims the other elements of barn construction along with the floor washing means. The patented combination was new and produced a dramatically different result from anything that had existed previously. As the court said in the *A. & P.* case, 340 U.S. at 150:

> "In the third place, if the extension itself were conceded to be a patentable improvement of the counter, and the claims were construed to include it, the patent would nevertheless be invalid for overclaiming the invention by including old elements, *unless, together with its other old elements, the extension made up a new combination patentable as such.*" [emphasis added]

3. There is no conflict with Rule 52, Fed. R. Civ. P.

The decisions of the court of appeals are not in conflict with Rule 52. In all of its opinions on the merits (437 F.2d 99, 474 F.2d 167, and 185 U.S. P.Q. 642) the court of appeals carefully listed the evidence presented by the parties and came to the firm conclusion each time that the findings of the district court were clearly erroneous and had to be set aside.

CONCLUSION

The Petition for a Writ of Certiorari should be denied.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that three copies of the above and foregoing Brief for Respondent in Opposition have this date been served upon opposing counsel of record by placing same in the United States mail, postage prepaid and properly addressed.

July __, 1975.

J. Pierre Kolisch

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Brief for Petitioner on Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

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Respondent.

CERTIFICATE

The undersigned, counsel of record for Bernard A. Sakraida, certifies that only Petitioner, an individual, has an interest in the outcome of this case. These representations are made in order that Justices of this Court may evaluate possible disqualification or recusal.

JAMES F. HULSE

Attorney of Record
for Bernard A. Sakraida

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Foreword

Citations to the single volume Appendix are simply designated "A" followed by the page number. The patent file furnished by Respondent is *not* reprinted in the Appendix. The patent file is found in the record as attachment (f) to Petitioner's Motion for Summary Judgment that was filed on November 5, 1969, as docket entry No. 16. Citations to quotations from the patent file are designated "R" followed by the page number in the original record, and the citations correspond to previous cited quotations that have appeared in Petitioner's Brief before the Fifth Circuit in Cause No. 72-1108. Citations in the Brief to publications and patents considered by the Patent Office are to references which were attached to Petitioner's (Defendant's) Request for the Admission of Genuineness of Documents (docket entry No. 30), and which have been admitted by Respondent as being correct (docket entry No. 32). These references are referred to simply as exhibits. Exhibit 2 is a copy of "Cattle Shelters and Equipment for South Carolina", *Extension Agricultural Engineering Handbook*, No. 2,1958, p. 21 and 26, published by the Clemson University Agricultural College (A. 94). Exhibit 3 is a copy of a thirteen page document published by Babson Brothers Dairy Research Service in 1959, entitled "The Way Cows Will Be Milked On Your Farm Tomorrow" (A. 94). Exhibit 4 is a nine page copy of the K. Luks patent bearing patent office No. 1, 968, 564 dated July 31, 1934 (A. 94). Exhibit 5 consists of the eighteen page copy of the F. J. Kreutzer patent bearing patent office No. 1, 981, 417 dated November 20, 1934 (A. 95). Exhibit 6 consists of a ten page copy of the F. J. Kreutzer patent bearing patent office No. 1, 981, 418 dated November 20, 1934 (A. 95). Exhibit 7 consists of the twenty page copy of the H. McCornack patent bearing patent office No. 2, 081, 947 dated June 1, 1937 (A. 95). Exhibit 8 is a copy of the Bogert patent bearing patent No. 2, 233, 766 dated March 4, 1941 (A. 96). Each of the foregoing cited references to prior art were admitted into evidence during the trial of this cause on September 13, 1971 (A. 94-6).

IN THE
SUPREME COURT OF THE UNITED STATES
OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,
Petitioner,

versus

AG PRO, INC.,
Respondent.

BRIEF FOR PETITIONER ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

TO THE HONORABLE JUSTICES OF THE SUPREME COURT OF THE UNITED STATES:

Petitioner prays that this Honorable Court invalidate Respondent's combination United States Letters Patent 3, 223, 070, entitled "Dairy Establishment", and review Judgments of the United States Court of Appeals for the Fifth Circuit dated June 24, 1973[1] and April 24, 1975. The Petition for Rehearing

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1 The Judgment rendered on June 25, 1973 (481 F.2d 558), was not final, as the Court deferred a final decision as to the *validity* of Respondent's patent pending a determination in the District Court of Petitioner's Motion for New Trial pursuant to Rule 60(b), F.R.C.P. based upon newly discovered evidence (A. 120-30).

filed by Petitioner on May 6, 1975, was denied by the Court of Appeals on June 9, 1975[2].

HISTORY OF APPEAL

The Fifth Circuit initially reversed a Summary Judgment (A. 44-5) granted Petitioner by the District Court on February 19, 1970 (Judge Ernest Guinn presiding) at 437 F.2d 99. Thereafter, on September 13, 1971, a full trial was held in the District Court (Judge Ernest Guinn presiding), who after first admitting into evidence the Summary Judgment record (A. 57, 93-4, 97), allowed both parties to supplement the record with additional testimony, then entered Judgment in favor of Petitioner (A. 55-6), and adjudged the patent invalid as not meeting the test of novelty and non-obviousness and being controlled by this Court's Opinion in *Anderson's Black Rock, Inc. vs. Pavement Salvage Co.*, 396 U.S. 57, 24 L.Ed.2d 258 (1969) (A. 46-55). The Fifth Circuit again reversed the District Court, held the patent valid, and remanded the case for a determination of the issue of infringement at 474 F.2d 167. However, before the mandate was issued, Petitioner filed "Defendant's Motion For A New Trial" pursuant to Rule 60(b)(2) F.R.C.P., with the Fifth Circuit (481 F.2d 668). Petitioner's Motion (A. 120-30) was referred by the Court of Appeals to the District Court for determination. On February 7, 1974, a hearing was held before the District Court (Judge John Wood presiding), who granted Petitioner's Motion For New

2 All of the prior Judgments and Opinions from the United States Court of Appeals for the Fifth Circuit have been printed in the Appendix to Petitioner's Petition for a Writ of Certiorari, Page 1a-30a.

Trial based upon newly discovered evidence (A. 174-6)[3]. For the third time the Fifth Circuit reversed the District Court, denied Petitioner a new trial based upon newly discovered evidence[4], held the patent valid, and remanded the case for a determination of the question of infringement to the District Court. The most recent Opinion of the Fifth Circuit is not yet reported. (Appendix A, Page 1a-6a).

JURISDICTION

Jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1), and Rule 19.1(b), U. S. Sup. Ct. Rule. The Opinions of the Court of Appeals for the Fifth Circuit (481 F.2d 668) became final by the Court's decision rendered on April 24, 1975 (Appendix A, Page 1a-6a). Petitioner's Petition for Rehearing was denied on June 9, 1975 (Appendix E, Page 30a). Petitioner's Petition for a Writ of Certiorari was timely filed on July 17, 1975, and was granted by this Honorable Court on October 14, 1975.

THE LAW INVOLVED

The law basically is Art. I, § 8, cl. 8, *The Constitution of the United States of America*, and 35 U.S.C.,

3 Judge Wood's finding that Petitioner exercised due diligence as required under Rule 60(b)(2) F.R.C.P. to discover the new evidence following a "by chance" meeting with Mr. Herbert G. Meyer in January of 1973, as well as his finding that the new evidence showed that the patented flushing system was not new nor novel and did not meet the test of nonobviousness under 35 U.S.C. § 103 is entitled to be upheld pursuant to Rule 52 F.R.C.P.

4 The most recent Opinion from the Fifth Circuit did not discuss the effect of the new evidence to test nonobviousness under 35 U.S.C. § 103 (Appendix A, Page 1a-6a).

§§ 101, 102 and 103 (Appendix F herein). It is more specifically to be found in the decisions of the Supreme Court of the United States in *Lincoln Engineering Co. vs. Stewart-Warner Corp.*, 303 U.S. 545, 82 L.Ed. 1008 (1938); *Great Atlantic & Pacific Tea Co. vs. Supermarket Equipment Corp.*, 340 U.S. 147, 95 L.Ed. 162 (1950); *Graham vs. John Deere Co.*, 383 U.S. 1, 15 L.Ed.2d 545 (1966); and *Anderson's-Black Rock, Inc. vs. Pavement Salvage Co.*, 396 U.S. 57, 24 L.Ed.2d 258 (1969).

QUESTIONS PRESENTED

1. Whether the Judgments of the Court of Appeals that uphold the validity of the combination patent "Dairy Establishment" on the basis of novelty and nonobviousness decide a federal question in conflict with the standards for determining patent validity enunciated by this Honorable Court under 35 U.S.C. §§ 101, 102 and 103.

2. Whether the Court of Appeals erred in setting aside Trial Court findings to the effect that this combination did not show invention, and did not meet the test of nonobviousness when viewed by the standard prescribed for Rule 52 F.R.C.P.

3. Whether the Court of Appeals erred in setting aside Trial Court findings that Petitioner was entitled to a new trial because of newly discovered evidence, the evidence introduced being sufficient to rebut any presumption of validity of the patent, when viewed against the standard prescribed by Rule 52 F.R.C.P.

STATEMENT OF THE CASE

Respondent, as the present owner of United States Letters Patent 3, 223, 070, entitled "Dairy Establishment" patented on December 14, 1965, filed a patent infringement suit in the Federal District Court at El Paso on October 8, 1968 (A. 7-8, 27-33). Respondent has admitted that *every* "element" of the combination is *old*, i.e., was in use in the dairy business long before the application for patent "Dairy Establishment" was filed on November 5, 1963. Respondent asserts, and the patent was issued, on the finding that the patent was valid as a "combination" patent. The critical element to patent validity centers on the *means* of collecting and releasing the flush water that is used to remove manure of domesticated food producing animals from the floor of a barn (A. 14, 24-5). Claims 1 and 3 of Respondent's patent refer to a means located at the upper end of a sloped concrete floor of a barn to collect or store water as a pond, wherein the water can be released suddenly which allows the collected water to be released as a large volume, which can then travel down the contour of the sloped floor removing the manure as it flows downhill (A. 32-3).

STATEMENT

The Patent "Dairy Establishment"

Respondent's patent, although designated "Dairy Establishment", is allegedly novel and nonobvious because of the "flushing system" employed which allows the physical principle of gravity to operate on flowing water to create a surging effect when a large

volume of water is suddenly released on a sloped floor to remove manure from the floor of a modern dairy barn (A. 13-4, 24-5, 78-82, 108-9, 113-5).

Claim 3, which is dependent upon Claim 1 of the patent, (A. 32-3), is a "combination" of thirteen well-known elements in the dairy industry, and each was individually known in the prior art of dairy construction (A. 75). As noted specifically in the last sentence of Claim 1, and Claim 3, the *means* of creating the "flushing operation" is to collect water as a pool at the upper end of a dairy barn floor, with means so that it can be quickly released as a large volume to flow downhill over the paved floor removing cow manure in its path. The water and manure then flow through the paved gutters to a drain located at the lower end of the floor, and ultimately the wash water can be utilized as liquid fertilizer (A. 32-3). Respondent contends that there is a need to claim the thirteen well-known elements long used in a dairy barn as part of his novel "flushing system" in order to properly "frame the manure flush system" (A. 22, 25, 75).

Each Element Of The Combination Is Individually Old

By its Findings of Fact 1, the Trial Court found that "Dairy Establishment" as described in United States Letters Patent 3, 223, 070 is composed of thirteen elements, (A. 46-7) to-wit:

> (a) ". . . a smooth, evenly contoured, paved surface forming a floor providing a walking surface . . ."

> (b) ". . . drain means for draining wash water from such floor opening to the top of the floor."
>
> (c) ". . . said smooth, evenly contoured surface which forms such floor sloping toward said drain . . ."
>
> (d) ". . . multiple rest areas with individual stalls for each cow and with each of said stalls having a bottom which is also a smooth pavement . . ."
>
> (e) ". . . which is disposed at an elevation above the paved surface forming the floor . . ."
>
> (f) ". . . said stalls being dimensioned so that a cow can comfortably stand or lie in the stall, but offal from the cow falls outside the stall bottom and onto the floor providing the walking surface in the barn . . ."
>
> (g) ". . . said barn further including defined feeding areas having feeding troughs . . ."
>
> (h) ". . . a cow-holding area."
>
> (i) ". . . a milking area."
>
> (j) ". . . a transfer area all bottomed with the walking surface forming said floor in the barn . . ."

(k) "... and floor washing means for washing the floor providing the walking surface in the barn where said floor bottom, said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into the said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor."

(l) A tank on a mounting, so that it can be tilted, and the water poured out to cascade on the floor to form a sheet.

(m) A Floor-washing means comprising a dam for damming or collecting water as a pool directly on the floor, which such dam abruptly openable to send water cascading as a sheet over the floor towards the drain.

In its Findings of Fact 2, the Court concluded that the oral deposition of Donald Joseph Gribble, the president of the Respondent corporation, supported the finding that each of said items was not new but had been used in the dairy business prior to the time of filing the application for patent (A. 47-51). Furthermore, Mr. Gribble reaffirmed his deposition testimony during the trial of said cause and acknowledged that each of the elements of his "flush system" was old in the dairy business long before 1963 (A. 75). The Court also

referred to Respondent (Plaintiff's) Supplemental Memorandum In Opposition To Defendant's Motion For Summary Judgment which was filed of record on the 19th day of January, 1970, in its Findings of Fact 3 (A. 51), wherein it was stated:

> "Plaintiff doesn't deny that the patent is made up of a combination of old elements, just like most other patents."

And:

> "Plaintiff admits that all of the elements are *individually old*, but no one prior to the inventors ever combined the elements as called for in the claims." (Emphasis Added).

Respondent's counsel has acknowledged on more than one occasion that the individual items included within the combination are old. On Page 22 of Respondent's Opening Brief to the Court of Appeals, Fifth Circuit, in Cause No. 72-1108 counsel stated as follows, to-wit:

> "... Plaintiff has never denied that the prior art shows the existence of dairy barns having smooth paved surfaces; floor drains; cow stalls having paved bottom surfaces elevated above the barn floor; stalls dimensioned so that a cow in the stall will discharge offal in gutters through which the water can run; feeding, holding, milking and cow transfer areas all having paved floors; high pressure hoses and sprinkler systems for discharging water

on the barn floor. However, none of the prior art documents shows a floor washing means like that called for in the Gribble and Bennett patent, i.e., a washing means constructed to collect a pool of water above a portion of the floor so that when the water is released it will flow as a sheet to wash relatively instantaneously all barn floor areas and discharge cow offal into drains."

On Page 30 of the same Brief, Mr. Kolisch stated, to-wit:

". . . While water collected in large tanks or pools existed previously, no one prior to Gribble and Bennett ever suggested that it could be used as a floor-washing means *in combination with the other necessary elements of barn construction*." (Emphasis Added).

On Page 33 of the same Brief, counsel admitted the following by stating, to-wit:

". . . plaintiff has never denied that the Gribble and Bennett patent is for a combination of elements which are individually old."

Finally, in Respondent's Reply Brief to the Court of Appeals, Fifth Circuit, in Cause No. 72-1108, on Page 6, Mr. Kolisch attempted to crystalize the *inventive idea* in Respondent's patent in the following language, to-wit:

"At several places in appellee's brief (pages 3, 19, 21, 25) it is argued that since all Gribble and Bennett did was to use the force of gravity on water, which naturally flows downhill, this could not amount to patentable invention. In the first place, the Gribble and Bennett patent does not attempt to patent the idea of gravity making water flow downhill. *What Gribble and Bennett did was to claim as their invention a particular building construction in which, among other things, a pool of water is collected so that when abruptly released the force of gravity acting on the water produces a fast moving sheet of water that performs the washing action (Emphasis Added).*

The Prior Art

Respondent's counsel acknowledged in his *opening comments* to Judge Ernest Guinn on September 13, 1971, that not only has the problem of the accumulation of manure in dairy barns existed for thousands of years, but the idea of using water as a "flushing agent" to remove the deposits of manure has likewise been known since the days of Greek mythology involving the labors of Hercules (A. 57).

It is related in the book *Myths of Greece and Rome* by H. A. Guerber, American Book Company, 1893, page 221, as follows, to-wit:

"Hercules was next sent to Augeas, King of Elis, who had immense droves of cattle. The

stables usually occupied by these animals were in an incredibly filthy state, as they had not been cleaned in years; and now Hercules was given the task to remove the accumulated filth, and make a complete purification of the premises.

Close by these stables rushed a torrent, or rather a river, the Alpheus. *Hercules, with one glance, saw the use he could make of this rushing stream, which he dammed and turned aside from its course,* so that the waters passed directly through the stables, carrying away all impurities, and finally washing them perfectly clean." (Emphasis Added).

When the patent examiner was considering the application of the patent in question, nine prior art patents and two prior art publications were considered (A. 33). The McCornack and Bogert patents (Pet. Exs. 7, 8; A. 95-6), were referred to by Respondent as the "primary references" in his second application addressed to the patent examiner in the hopes of distinguishing the prior art (R. 161-2). Judge Ernest Guinn had available for review all three of the prior decisions from the patent office (A. 51-2) which had twice denied, and then finally approved the patent. Judge Guinn, therefore, was in a position to review each opinion from a patent examiner that passed on the application.[5] Initially, the application was denied by the examiner in part with the following language, to-wit:

5 Appendix G is the advice Respondent received as to how to avoid patented prior art.

". . . Floor washing means 215, 265 are shown washing the different areas. A tank 270 is shown for collecting the waste to be used as a fertilizer. The patent to Bogert discloses the equivalent of a dump tank 37 for washing a barn. Under 35 U.S.C. 103 it is held to be an obvious expedient to employ such a tank in the McCornack device in view of the disclosure in the patent to Bogert." (R. 170-1).

And:

"Relative to Claim 17 it is noted that the patent to Bogert discloses a cap valve 38 that is considered the equivalent of a dam." (R. 171).

The first amendment of the patent was denied by patent examiner Medbery in part in the following language, to-wit:

". . . Since the patent to McCornack discloses that it is old in the art to flush a cattle stall area and collect the waste for fertilizer it is held to be an obvious expedient under 35 U.S.C. 103 to provide the Kruetzer dairy establishment with such a flushing means and waste collection tank." (R. 150).

And:

". . . Floor washing means 265 are shown for the stalls, arrows 281 are disclosed for the drainage of wash water in the cow yards 280 and water pipes 215 are disclosed for flushing

off surface 31 in the milking area. Attention is directed to Page 6, Column 2, Lines 71-75, of the McCornack patent wherein it is stated that drainage is provided for the stables, cow yards, milkrooms and runways as a valuable feature of the dairy plant."

"Relative to Claim 20 it is noted that the disclosed pipes in the McCornack device by necessity are connected with a source of water and merely turning on the water directed through these pipes is considered the equivalent of abruptly allowing the escape of a large volume of water to wash waste from the floors of the dairy plant." (R. 152).

And further continuing:

"... The patent to Bogert *discloses that it is old in the art to provide a large tank 46 positioned at an end of a barn provided with a means 38 for releasing the liquid contained therein at a fast rate. Such an arrangement is held to be the equivalent of a dump tank.* In the Bogert device the liquid from tank 46 is directed to gutters 14, 15 for cleaning the same. Since the patent to McCornack and the S.C. publication disclose a dairy plant combination as stated above it is held to be an obvious expedient under 35 U.S.C. 103 to provide the device of McCornack with tank flushing means for the different surfaces the animals walk on in view of the Bogert patent." (R. 153) (Emphasis Added).

"Relative to Claim 17 it is noted that the Holz patent discloses the equivalent of a dam as at 5 that is selectively raised or lowered and is broadly stated in this claim. The location of the same is held to be a matter of choice or design." (R. 153).

The Court's Findings of Fact 4, 5 and 6 essentially incorporate the prior art and rationale quoted above from two opinions from the patent office (A. 51-2).

The Prior Art — Person Having Ordinary Skill

In addition to the foregoing prior art citations which were before the Patent Office, there is also evidence of the actual use and practice of "water flush" techniques employed by people having ordinary skill in the art to which "Dairy Establishment" pertains. Mr. Robert B. Price, Jr., Mr. Emil Rovey, Mr. Frank Souza, Mr. Chester Whitmore, and Mr. Herbert G. Meyer each testified as to their knowledge and experience of "water flush" in the dairy industry.

Mr. Robert B. Price, Jr. has operated Price's Dairy in El Paso, Texas for twenty two years (A. 84). He also has had occasion to visit quite a few dairies throughout the United States and is generally familiar with the standard dairy barn construction required for Grade A production (A. 85-6). The various elements that comprise "Dairy Establishment" are well-known standard features of a modern dairy barn (A. 86-8). Mr. Price collects water in a 50,000 gallon tank, which is connected to high pressure hoses to remove manure from his floor. He has also seen pictures of operations

where natural flowing water was diverted from a stream through a barn to wash as a sheet of water manure from the floor (A. 89-91).

Mr. Emil Rovey has been a dairy farmer in Glendale, Arizona since 1943 (A. 202). He testified to a dairy and poultry operation he completed in 1948 which employed a water flush system with irrigation water to remove manure from the floor of his dairy barn and below his chicken coops. The wash water was stored in a "cement-lined ditch" and was released onto the dairy barn floor through four ports through the side of the dairy barn that were regulated with four wooden gates (A. 203-4). There were no engineering plans for the dairy, it was simply built from "know-how" (A. 204). Mr. Rovey identified Petitioner's Exhibit A as being a sketch of the floor plan of his dairy barn as of 1950 (A. 205-6, 208, 212-213, 216, 221-2). Mr. Rovey employed a "weir" type mechanism in the side of his barn that allowed dammed irrigation water to pass through "ports" located in the wall of Rovey's barn, and then flow across the sloping concrete floor (A. 206-7). Once the "weir" gate was raised, the dammed water in the irrigation ditch passed through the side of his barn, and onto the concrete floor, and flushed the manure away. Rovey testified that the "surge of water would carry this water and manure to the gutter" (A. 207-8). Located at the lower end of the dairy barn were Rovey's chicken houses. Rovey identified Petitioner's Exhibit B as being a picture of his poultry houses as they existed in 1948 (A. 209-11, 216). Underneath the chicken cages was a cement trough where the droppings would fall, and Rovey had kind of a "plug" located at the top end of the trough which he would pull out to let stored water flow down through the cement

trough and wash the chicken droppings away (A. 208). Mr. Rovey identified Petitioner's Exhibit C as being a newspaper article published on August 2, 1953, in an Arizona newspaper that featured his dairy operation in detail (A. 211-12, 216). Rovey thought he quit using his flushing system sometime around 1955 (A. 220).

Mr. Frank Souza, a dairy barn contractor from Turlock, California, testified to 28 years of experience in dairy construction. As early as 1946, he built a dairy with his brother which utilized a "weir" board system to dam or store water that could be released downhill onto the concrete holding corral floor in order to wash off manure (A. 224-6). Mr. Souza identified Petitioner's Exhibits D, E and F as being a telegram he directed to the attention of Petitioner's counsel, as well as floor plans for early barn construction he designed that employed a "weir" board to dam a large volume of water (A. 223-4, 227-8, 230, 233-4). The nub of Souza's idea was to impound or dam water in the holding corral area so that manure would not stick to the floor. Souza would then raise the "weir" board and the impounded water would leave and flow downhill and would take with it the manure (A. 227-8). Mr. Souza got the idea of "damming water with a weir board" from his older brother (Harry) whom he grew up with on a farm (A. 229). Mr. Souza identified Respondent's Exhibit F as being the floor plan of a barn he designed for a Mr. Frank Mechado in 1949 (A. 230). Mechado's dairy also employed a "weir" board which when activated allowed the wash water to flow downhill and wash away manure from the backside of the holding corral (A. 231-2). Souza testified that it wasn't until approximately nine or ten years ago that he started fil-

ing blueprints of how dairies were built (A. 232). Until that time, Mr. Scuza learned his trade simply by talking with different customers, or craftsman, as well as practicing the trade himself (A. 232).

Mr. Chester Whitmore, who resides in Modesto, California, had thirty three years of experience in the Grade A dairy business from 1929 until 1962. His dairy was located in Modesto, California (A. 235-6). His dairy was featured in an article in *Hoarde's Dairyman* in 1959 (Pet. Exs. H, I; A. 240-43). Mr. Whitmore designed a "flush system" through his observation and "using my own improvision." Mr. Whitmore also visited several dairies in the area and particularly one built by Elvyn Young on Standeford Avenue in Modesto, California. Mr. Whitmore's dairy was completed in the fall of 1953 (A. 236-9). Whitmore defined the term "flush system" as meaning using a lot of water to carry both the fibers and paste of manure from the floor of the barn (A. 236). Whitmore contained the flush water against a shallow wall built around a flat floor with a drain towards the opposite end of the barn. The water was held in place with a "tapered wooden plug" (A. 236-8). When the wooden plug was pulled out of place, the stored wash water flowed through the opening and carried with it the accumulation of manure droppings downhill through the feeding area and into a manure pit at the lower end of the dairy (A. 238). Although Mr. Whitmore presently has no engineering plans for the dairy he built in Modesto, California, he identified Petitioner's Exhibit G as being his sketch or diagram as he remembered his floor plan (A. 238-40).

Mr. Herbert G. Meyer lives in Carmel, California, and is ranch manager for "Herald Ranches" which operates the Mission Dairy[6]. Mr. Meyer acquired the Mission Dairy for a trust in 1961. Not knowing anything about dairies, Mr. Meyer spent a great deal of time investigating the design of other dairies before actually acquiring ownership of the Mission Dairy. Mr. Meyer traveled throughout California and parts of Arizona and examined various types of "flush systems" (A. 245-7). Specifically, Mr. Meyer visited the Koyman Dairy at Lodi, California, and he also visited either DiCarli Dairy or Klaus Dairy in Stockton, California which employed a "drop gate" in its flush operation (A. 248-9, 251). Mr. Meyer also visited Mr. Whitmore's dairy as well as the Max Foister Dairy (A. 248). The Whitmore design was the basis upon which Mr. Meyer predicated his design for a new flush system (A. 249-50). Herbert Meyer decided to put a gate at the upper end of the barn to impound the water, which would give him his volume, and the gate would be operated with a "hydralic ram" which would allow the water to either come out gradually or surge (A. 251). Mr. Meyer had on file with the California Soil Conservation written plans regarding the contemplated construction as of January 1962 (A. 252). Mr. Meyer identified Petitioner's Exhibits J, K, L and M as being various pictures of his drop gate and flush gate system installed at the Mission Dairy (A. 253-5, 258, 264-5). On October 25, 1963, Mr. Meyer began milking operations at the Mission Dairy (A. 253).

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6 Respondent's counsel has conceded that the "flush system" used at the Mission Dairy is substantially the same as what is disclosed by the patent in question (A. 267).

The Prior Art — Person With Expertise

Mr. W. C. Fairbank is an extension agricultural engineer with the Agricultural Extension Service, University of California in Riverside. He is a graduate agricultural engineer from the University of California in 1950, and joined the Agricultural Extension Service in 1958 with primary responsibilities in the area of livestock machanization and related matters (A. 131-2). Mr. Fairbank believed that the Hal Higgins' collection at the Davis Library at the University of California has reference to "water flush" of one kind or another to clean a dairy barn as dating back to the turn of the century or earlier (A. 157-8, 163). Mr. Fairbank discovered written accounts of a "water flush" system that appeared in a 1957 edition of *Hoarde's California Dairyman* (A. 159). Mr. Fairbank was of the belief that articles appearing in dairy magazines were not brought to the attention of the Patent Office (A. 159-62, 171). Mr. Fairbank believed that the "flush out system" that was printed in *Hoarde's Dairyman* in 1957 was very similar to the patent in question (A. 160). Mr. Fairbank described the dairies at Weed and Bishop as being alongside an adjacent stream, and a "weir" board was simply used to divert the stream to flush the barn floor. A system at Lodi, California, used irrigation water (A. 161, 166). Mr. Fairbank agreed that the various and sundry types of flush out systems used the mechanical principle of the gravity flow of water as a means to flush manure by saying, to-wit:

> "The mechanics of it, of that aspect of it in flushing operations, yes, are very similar if not precisely the same. That is why I was disturbed at certain features of the patent and that is why I was one of the persons who said that patent needed to be examined in the light of . . . *because already there was a lot of prior history of that concept.*" (A. 162) (Emphasis Added).

Mr. Fairbank found it difficult to see a difference in substance from collecting water in a stream, ditch, a pond, or a tank. In his words, he thought the differences were "of a vague demarcation between those different hydraulic devices" (A. 162). Collected water has been in long use before 1963. Mr. Fairbank, however, had difficulty as to whether or not there was a difference in principle between "static collection" or "a moving dynamic situation" (A. 163). Mr. Fairbank also had difficulty in understanding the concept of "sheet form of water" as not necessarily having to originate from water released from a drop gate (A. 165-6). Mr. Fairbank testified that the flush operation at the Mission Dairy was in operation about July 23, 1963 (A. 141-2).

Newly Discovered Evidence[7]

During the hearing before the Honorable John Wood on February 7, 1974, Mr. Herbert G. Meyer testified in

7 Petitioner's Motion For New Trial (A. 120-130) was filed initially with the Court of Appeals because Petitioner was the *Appellee* on the date when the "by chance" meeting occurred between Mr. Bernard A. Sakraida and Mr. Herbert G. Meyer in Florida. Upon receiving the Court of Appeals Opinion of June 25, 1973, (Appendix B, Page 6a-9a), Petitioner filed his Motion For New Trial pursuant to Rule 60(b)(2), F.R.C.P. with the Trial Court, and specifically within Paragraph 7 identified Herbert G. Meyer, Frank S. Souza, Emil Rovey, Chester Whitmore, and Dick Ripley as being individuals whom Petitioner intended to call in support of his Motion For Newly Discovered Evidence of prior art of water flush systems that antedated Respondent's patent (A. 123).

corroboration of his Affidavit attached as Exhibit A to Petitioner's Motion For New Trial based upon newly discovered evidence (A. 124-6). Mr. Meyer testified that in January of 1973 he was in Florida on business to view dairy construction and Mr. Sakraida's name had been given to him as being a contractor in the area (A. 255-6). While discussing "flushing systems", Mr. Sakraida indicated he was being *sued* about a flushing system, and Mr. Meyer then told Sakraida that his flushing gate at the Mission Dairy was just like the one involved in the suit (A. 256). Mr. Meyer was then contacted by Mr. Tatem to obtain an Affidavit (A. 256). Mr. Meyer then contacted Mr. Rovey, Mr. Souza, and Mr. Whitmore regarding their knowledge of flush systems (A. 257). Mr. Meyer admitted that he had instructed Mr. Ripley (his manager) not to answer specific inquiries from people who might be inquiring about the "flush system" at the Mission Dairy because of Mr. Meyer's knowledge about a patent suit filed against a dairyman in Los Angeles (A. 261-3).

Although Mr. Sakraida admitted that while he was living in Florida in 1971 he attempted to confirm "rumors" as to the type flush system in use at the Mission Dairy by asking a friend, Mr. Wisdom, who lived in Oregon, to visit the Mission Dairy and report back on the nature of the flush system found, Mr. Wisdom was unsuccessful in discovering any specific details as to what was in use at the Mission Dairy (A. 177-188, 190-195). Mr. A. M. Wisdom confirmed the testimony of Mr. Sakraida and Mr. Meyer (A. 195-7, 200-1).

At the conclusion of the hearing in February 7, 1974, the Trial Court found as follows, to-wit:

"The Court further finds that the defendant did in fact exercise the due diligence required under Rule 60(b)(2) and that the evidence presented to the court at the hearing could not have been discovered in time to move for a new trial under Rule 59(b). In fact, the evidence clearly shows that the names of witnesses and the nature of their testimony was discovered purely *by chance* by the Defendant himself at a meeting in January of 1973 by Herbert G. Meyer. Mr. Meyer and all Defense witnesses presented at the hearing testified that they had never been aware of the litigation of the case at Bar at any time prior to this meeting." (Emphasis Added). (A. 174-5).

SUMMARY OF ARGUMENT

United States Letters Patent 3, 223,070, entitled "Dairy Establishment", being a combination patent of thirteen elements which are each admittedly old and well-known features of standard modern dairy barn construction, is required to be closely scrutinized with a view towards the improbability of finding an inventive idea. Landmark precedents enunciated by this Honorable Court have established the *precise test* to review patent validity in terms statutorily defined in 35 U.S.C. § 101, 102 and 103, to be "novelty" and "nonobviousness." Unless a patent is found to meet these statutorily defined standards, it is not entitled to patent validity. The Trial Court thrice denied validity to "Dairy Establishment" because the combination was

not novel, and did not meet the standard of nonobviousness. These Trial Court findings are supported by the evidence, are not clearly erroneous, and are, therefore, entitled to affirmance under Rule 52, F.R.C.P. The Court of Appeals misapplied the test of what constitutes a synergistic effect. There is no difference in the effect here from what it was in the *Great Atlantic & Pacific Tea Co. case.*

A mere aggregation of old ideas blended together, wherein each element performs the same function it has long performed outside of the combination, does not add to the sum of useful knowledge, is not a novel idea, and does not meet the test of nonobviousness.

The citations to prior art patents within the dairy industry, the numerous admissions of record that each of the elements of the combination was individually old, the testimony of individuals with normal skill in the art, as well as the testimony of experts, rebutted any validity that may otherwise attach to an issued patent. The mechanical application of the physical prinicple of gravity that occurs when water is released so as to run downhill over a sloped, paved floor, so that it will carry with it cow manure into a gutter and then finally into a drain located at the lower end of the sloped floor, does not add to the sum of useful knowledge because it is not inventive, since the combination does not change the respective functions of the individual elements within the combination, but simply combines them in a way that is effective as a "manure flush system." Because of gravity, and not invention, water will always run downhill. Furthermore, because of the general propensity of water, and not invention, water tends to loosen and carry with it matter that is deposited in its path as it runs downhill. Generally, the cleaning action of water is directly related to the slope or grade of the floor and the volume of water that is released.

Furthermore, the application of a means to house water at the upper end of a dairy barn, so that it can be quickly released to allow the water to escape as a large volume as the first step in the flush system of "Dairy Establishment" is a means merely of convenience, contains no new idea, is not novel, and does not meet the test of nonobviousness. The use of a "tank" as a means to accomplish a water flush for a modern dairy barn when used in combination with admittedly other old elements of standard barn construction is merely a matter of the mechanics of construction, is simple, and would be well-known to those schooled in the art of mechanical construction.

Even assuming the application of such a means as is depicted in Claim 3 of "Dairy Establishment" is a novel idea, Respondent has nevertheless overclaimed his alleged invention by combining the means set forth in Claim 3 with all of the old standard features of dairy barn construction that have been long and widely used, and which are not patentable themselves, but which are integral parts of Claim 1 of "Dairy Establishment."

The Trial Court finding that Petitioner exercised due diligence to discover and develop his new evidence

following a "by chance" meeting with Mr. Herbert G. Meyer in Florida in January of 1973, is entitled to be affirmed under Rule 52, F.R.C.P. because said finding is supported by the credible evidence of record, and is not clearly erroneous.

ARGUMENT

The Trial Court's Findings of Fact fully support the judgments entered by the Trial Court for the Petitioner (A. 46-52, 174-5, 258). These Findings were to the effect that the component parts of the Gribble patent are all old, that they are not novel, and that the combination of them in this patent is not novel, and does not meet the test of nonobviousness. The Findings are further to the effect that the idea of a water flush system to clean a barn or stable of manure is not new or novel. These Findings are supported by the evidence, and certainly are not clearly erroneous. They are, therefore, pursuant to Rule 52, F.R.C.P., controlling in this case.

"Dairy Establishment" is a *combination* patent. Its component parts are admittedly all old. Claim 1 of the patent covers the entire floor plan or layout of a modern dairy barn along lines long known and widely used for Grade A milk production. The essence of Respondent's patent is its use of the gravity flow of water to clean a dairy barn floor, when the water is suddenly released onto a sloping concrete floor. There is nothing novel in this, nor does the patent meet the test of nonobviousness as set out in 35 U.S.C. Sec. 103, and covered in this Court's Opinion in *Graham vs. John Deere Co.*, 383 U.S. 1, 15 L.Ed.2d 554 (1966).

The Court of Appeals, Fifth Circuit, stated it is uncertain as to the "precise test" it was required to follow in determining the "nonobviousness" of the combination patent in question under 35 U.S.C. § 103 by stating as follows, to-wit:

> ". . . Although the Court in *Graham* clearly rejected the Fifth Circuit rationale that an invention is patentable when it produces an 'old result in a cheaper and otherwise more advantageous way', what precise test, if any, that Court substituted is unclear." (Appendix C, Page 20a-21a).

The Court of Appeals also stated the combination of old parts in this patent achieved a "synergistic result", (Appendix C, p. 22a), but it misapplied the concept of what is the test of a synergistic result. The evidence in this case shows only that adding together the parts of the combination gave a result equal to the sum of them, and not a result that was greater than this sum. There is, therefore, no synergistic result in this case. Petitioner submits that synergistic result cannot be used, as it was by the Court of Appeals, to bolster its opinion that the Gribble patent meets the tests of novelty and of nonobviousness. The holding of the Court of Appeals in this case is, therefore, contrary to the holdings of this Honorable Court in *Lincoln Engineering Co. vs. Stewart-Warner Corp.*, 303 U.S.

545, 82 L.Ed. 1008 (1938); *Great Atlantic & Pacific Tea Co. vs. Supermarket Equipment Corp.*, 340 U.S. 147, 95 L.Ed. 162 (1950); *Graham vs. John Deere Corp.*, 383 U.S. 1, 15 L.Ed.2d 445 (1966); and *Anderson's-Black Rock, Inc. vs. Pavement Salvage Co.*, 393 U.S. 57, 24 L.Ed.2d 258 (1969).

Close Scrutiny Required

This Honorable Court has enunciated very definitive guidelines for reviewing the validity of a "combination patent." In very clear, precise language, this Court has stated, to-wit:

> "Courts should scrutinize combination patent claims with a care porportioned to the difficulty and improbability of finding invention in an assembly of old elements. The function of a patent is to add to the sum of useful knowledge. Patents cannot be sustained, when on the contrary, their effect is to subtract from former resources freely available to skilled artisans. A patent for a combination which only unites old elements with no change in their respective functions, such as is presented here, obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men. This patentee has added nothing to the total stock of knowledge, but has merely brought together segments of prior art and claims them in congregation as a monopoly.

The Court of Appeals and the respondent both lean heavily on evidence that this device filled

a long felt want and has enjoyed commercial success. But commercial success without invention will not make patentability . . . The courts below concurred in finding that every element here claimed (except extension of the counter) was known to prior art. When, for the first time, those elements were put to work for the supermarket type of stores, although each performed the same mechanical function for them that it had been known to perform, they produced results more striking, perhaps, than in previous utilization. To bring these devices together and apply them to save the time of customer and checker was a good idea, but scores of progressive ideas in business are not patentable, and we conclude on the findings below that this one was not." *Great Atlantic & Pacific Tea Co. vs. Supermarket Equipment Corp.*, 340 U.S. 147 at 152-3 (1950).

The need for a close scrutiny of a combination patent is seen in *Lincoln Engineering Co. vs. Stewart-Warner Corp.*, 303 U.S. 545 (1938), where this Honorable Court held the improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination, citing *Rogers vs. Alemite Corp.*, 298 U.S. 415. This Court said at Page 547, with reference to the Roger's case, to-wit:

> ". . . We held that as the combination of pump, connecting conduit, coupler, and fitting was old, Gullborg could not, by inventing a new and improved type of coupler or fitting claim

either of these in combination with the old forms of the other elements so as to exclude the public from the use and sale of the old forms of fittings or grease guns even though these might be used respectively with Guilborg's improved coupler or his improved pin fittings, because, in the combination claimed, an old type pin fitting, or an old type coupler had no novel function over those of the prior art."

This holding is also implicit in *Anderson's-Black Rock vs. Pavement Salvage Co.*, 396 U.S. 57, 24 L.Ed. 2d 258 (1969).

The Gribble patent therefore needs close scrutiny to see whether it contains innovation, advancement, and things which add to the sum of useful knowledge, which promote the "Progress of . . . useful Arts", *Anderson's-Black Rock, supra*, or is merely an "aggregation" of old ideas blended together wherein each element performed the same function it long has done outside of the combination, *Lincoln Engineering Co., supra*.

Subject Matter Of The Gribble Patent Lacks Novelty And Does Not Serve The Advancement Of Science

The use of a flow of water to clean a barn or stable floor has long been known. The earliest known reference to it is Hercules' fifth labor of cleaning the Augean stables, wherein it is related he *dammed* the river, and by this means turned the flow of water into the stables. This is similar to the use of a weir or gate to hold, impound or dam water in a creek, canal or

flume, which is likewise old in the art. A "weir" board or gate has long been used to divert water for various purposes, such as to run a water wheel, irrigate land or to wash a dairy barn floor. The case of *Merrifield vs. Canal Commissions*, 72 N.E. 405, at 409 (Ill. Sup. 1904) describes such a weir, which had been built as early as 1838.

Weir boards were used to collect water, and to divert it onto dairy barn floors at Weed, Lodi and Bishop, California (A. 161-2, 166). This long antedated the filing of the application for the Gribble patent on November 5, 1963 (A. 27-9). In essence, what was done at Weed, Lodi, and Bishop was to dam a small stream or canal alongside the dairy barn, so that water is collected behind the weir or dam, and then by raising a weir board next to the upper end of the barn, the dammed water ran out of the stream or canal in which it was collected, and across the upper end of the barn floor, from whence it flowed on down the floor to the lower end of the barn (A. 161-2). The principles involved in doing this are essentially the same as those involved in the Gribble patent. The said patent provided for a floor washing means "operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor washing means including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor" (Claim 1. A. 32).

It further recites, "3. The barn of Claim 1, wherein said floor-washing means comprises a dam for damming and collecting water as a pool directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor toward said drain means" (Claim 3, A. 33).

In its Reply Brief in the Court of Appeals, Cause No. 72-1108, Respondent described its patent as follows:

> ". . . What Gribble and Bennett did was to claim as their invention a particular building construction in which, among other things, a pool of water is collected so that when abruptly released the force of gravity acting on the water produces a fast moving sheet of water that performs the washing action . . ." (Page 6).

The floor washing operation described in said claims is in essence the same as in the examples of the prior art heretofore set out. All of them collect water in a pool, all of them have the pool of water adjacent to the dairy barn floor, and all of them have a means of releasing it suddenly, so as to send a sheet of water by gravity across the barn floor to wash away the manure.

All of these employed the common sense arrangement of storing the water so that it flows onto the upper end of the barn floor, which permits it to be carried down the floor by gravity.

The evidence not only shows the use of water collected in a pool, and then released onto the dairy barn

floor at Weed, Lodi and Bishop, but also shows that a "water flush" system had been described in a 1957 edition of *Hoarde's California Dairyman* (Pet. Ex. I, A. 159, 240-2), which was a trade publication widely disseminated on the West Coast among those in the dairy business (A. 159). Mr. Fairbank thought the water flush system described in *Hoarde's Dairyman* was very similar to the one described in the Gribble patent (A. 160). The evidence further shows that the Hal Higgins' collection at the library of the University of California at Davis, California, contains material about water flush systems to clean dairy barns as far back as the beginning of the 20th Century (A. 157-8, 163, 257).

The testimony of Robert Price established that the basic layout of the dairy barn floor described in the Gribble patent is shown to be standard dairy barn construction in use for many years prior to the Gribble patent application. Mr. Price also testified to having seen pictures showing a diversion of water to clean a dairy barn floor (A. 85-91).

The prior use of water collected in a cement lined ditch, or in a tank on the barn floor, and released to carry away manure was covered in detail in the testimony of Emil Rovey, of Glendale, Arizona, Frank Souza, of Turlock, California, Chester Whitmore, of Modesto, California, and Herbert Meyer, of Carmel, California. Mr. Rovey testified to using a water flush system back as early as 1948, releasing the water from a ditch in which it was stored onto the barn floor through four ports which were regulated by four wooden gates (Pet. Ex. C; A. 202-22). Pet. Ex. B (A. 209-

11) shows Rovey's idea of water flush being applied to chicken coops. Mr. Souza was a dairy barn contractor, and as early as 1946 he was building dairy barns which had a water flush system. He used a weir board system to release water onto a concrete dairy barn floor to wash off the manure (A. 224-232). What he did was to use a weir board to impound the water on the barn floor where it was then released to flow downhill (A. 223-8).

Mr. Whitmore, whose dairy was featured in the *Hoarde's Dairyman* in 1959, built a water flush system, storing the water on the barn floor, and which, when released, carried the manure with it (A. 236-8).

Mr. Meyer visited many dairies in 1961 before building the Mission Dairy, and obtained fundamental ideas from, among others, a dairy at Lodi, a dairy in Stockton, and Mr. Whitmore's dairy. Mr. Meyer used the Whitmore Dairy system as the basis for the one he built, (A. 245-265), plans for which were on file in January, 1962, with the California Soil Conservation office (A. 252), and his design is said to be quite similar to the one described in the Gribble patent (A. 267).

The Trial Court was certainly free to consider both the references considered by the patent examiner and his opinions as a basis for his finding of fact that the patent was invalid.[8] The record shows the patent examiner stated certain prior patents anticipated the one applied for by Gribble in certain respects, as set out at 13-15 of this Brief. Particularly in point is the lan-

8 Judge Guinn had the recommendation from the Patent Office to consider as to how to avoid prior art (Appendix G).

guage of the District Court in *Hughes Tool Co. vs. Ingersoll-Rand Co.*, 305 F. Supp. 1119 (S. D. Tex. 1969), affirmed 437 F.2d 1106 (5th Cir. 1971), cert. den. 403 U.S. 918 (1971):

> "I recognize that one of the references cited by the Examiner of the Patent Office was Brown 2,725,216, and I recognize the strong presumption in favor of validity resulting from this circumstance. I am convinced, however, that Brown completely anticipates the patent in question, save in the rather insignificant particulars mentioned and discussed above." (At Page 1122). See also *Sisko vs. Southern Resin & Fiberglass Corp.*, 373 F.2d 866 (5th Cir. 1967).

The Trial Court (J. Guinn) found as a fact the water flush system in the Gribble patent was not new, but had long been in the dairy business prior to the filing of the application for the Gribble patent, giving his basis for doing so (A. 48-52), and the Trial Court again (J. Wood) on February 7, 1974, found the "flushing system" in question was not new nor novel, and does not meet the nonobviousness test under 35 U.S.C. § 103 (A. 175, 268). Nor does the Gribble patent contain anything of value in the advancement of science.

It has long been held that to be patentable the subject matter of the patent must be new or novel, and also that it must add to the sum of human knowledge, and must advance science. In *Lincoln Engineering Co. vs. Stewart-Warner Corp.*, 303 U.S. 535, 82 L.Ed. 1008 it was said, referring to the *Rogers case*, 298 U.S. 415:

> "We held that as the combination of pump, connecting conduit, coupler, and fitting was old, Gullborg could not, by inventing a new and improved type of coupler or fitting claim either of these in combination with the old form of the other elements so as to exclude the public from the use and sale of the old forms of fittings or grease guns even though these might be used respectively with Gullborg's improved coupler of his improved pin fittings, because, in the combinations claimed, an old-type pin fitting, or an old-type coupler had no novel function over those of the prior art."

It was further said in the *Lincoln Engineering case:*

> "The mere aggregation of a number of old parts or elements which, in the aggregation, perform or produce no new or different function or operation than that theretofore performed or produced by them, is not patentable invention. (Citing authorities) And the improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination." (Citing authorities).

The holding in *Great Atlantic & Pacific Tea Co. vs. Supermarket Equipment Corp.*, 340 U.S. 147, 95 L.Ed. 162 is to the same effect. As is indicated by the following statement in the Opinion in said case:

> "Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements. The function of a patent is to add to the sum of useful knowledge. Patents cannot be sustained, when on the contrary, their effect is to subtract from former resources freely available to skilled artisans. A patent for a combination which only unites old elements with no change in their respective functions, such as is presented here, obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men. This patentee has added nothing to the total stock of knowledge, but has merely brought together segments of prior art and claims them in congregation as a monopoly."

We find a similar holding also in *Anderson's-Black Rock, Inc. vs. Pavement Salvage Co.*, 396 U.S. 57, 24 L.Ed.2d 258 wherein it is said, quoting from *Graham vs. John Deere Co.*, 383 U.S. 1, 6, 15 L.Ed.2d 545, 550:

> ". . . Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by constitutional command must 'promote the Progress of . . . useful Arts.' This is the *standard* expressed in the Constitution and it may not be ignored."

That novelty is required is further set out in the *Graham case*, p. 12, where it is said:

> "An analysis of these three sections indicates that patentability is dependent upon three explicit conditions: *Novelty* (emphasis added) and utility as articulated and defined in § 101 and § 102, and nonobviousness, the new statutory formulation, as set out in § 103."

That the subject matter of the patent must be something which is new or novel, must add to the sum of human knowledge, and be such as to advance science is well established in the law. That the idea and use of water flush systems to clean dairy barn floors is not new or novel is clear. In the light of this fact, it must be said that the Gribble patent adds nothing to the sum of human knowledge, nor does it in any way advance science. It must follow that the claim of the Gribble patent is not patentable, and that the patent is not valid.

The Obvious-Nonobvious Test

In 1952 Congress enacted § 103 of Title 35 U.S.C. into law. It reads:

> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in § 102 of this Title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Pat-

> entability shall not be negatived by the manner in which the invention was made."

This section is specific in stating an invention is not patentable if the differences between the subject matter sought to be patented and the prior art are such that the *subject matter as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Section 103 was closely examined and applied in *Graham vs. John Deere Co.*, 383 U.S. 1, 15 L.Ed.2d 545 (1966), when the question of the validity of a patent on a "clamp for vibrating shank plows" was determined. In 1955, the Fifth Circuit had held this same patent valid under its rule that when a combination produces an "old result in a cheaper and otherwise more advantageous way," it is patentable. On certiorari to the Eighth Circuit, this Court held that that patent was invalidated and the Fifth Circuit's rationale was erroneous. In the Opinion in the *Graham case*, reference was made to the constitutional provision which authorizes the Congress "To promote the progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries", and stated this clause is both a grant of power and a limitation. It further said with respect to the exercise of the patent power by Congress:

> "Nor may it enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby. More-

over, Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available. Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by constitutional command must 'promote the Progress of . . . useful Arts.' This is the *standard* expressed in the Constitution and it may not be ignored. And it is in this light that patent validity 'requires reference to a standard written into the Constitution.' "

The Opinion thereafter refers to Sections 101, 102 and 103 and states that an analysis of the structure of these three sections indicates that patentability is dependent upon three explicit conditions: Novelty and utility as articulated and defined in Section 101 and Section 102, and nonobviousness, the new statutory formulation, as set out in Section 103. The Opinion further states:

> "Section 103, for the first time in our statute, provides a condition which exists in the law and has existed for more than 100 years, but only by reason of decisions of the courts. An invention which has been made, and which is new in the sense that the same thing has not been made before, may still not be patentable if the difference between the new thing and what was known before is not considered sufficiently great to warrant a patent. That has been ex-

> pressed in a large variety of ways in decisions of the courts and in writings. Section 103 states this requirement in the title. It refers to the difference between the subject matter sought to be patented and the prior art, meaning what was known before as described in Section 102. If this difference is such that the subject matter as a whole would have been obvious at the time to a person skilled in the art, then the subject matter cannot be patented."

The Court also stated that the Reviser's Note to this section, with apparent reference to Hotchkiss, recognizes that judicial requirements as to "lack of patentable novelty (have) been followed since at least as early as 1850," and noted that the reports of both Houses of Congress showed the section is added to the statute for uniformity and definiteness. Following this the Opinion states:

> "We conclude that the section was intended merely as a codification of judicial precedents embracing the Hotchkiss condition, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability."

The Opinion then points out that under Section 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved; and that against this background, the obviousness or nonobviousness of the subject matter is determined. The

Court specifically refused to find in Section 103 a relaxed standard in determining patentability, stating the standard has remained invariable with this Court, but also noting that technology has advanced with remarkable rapidity in the last fifty years, and that the ambit of applicable art in given fields of science has widened by disciplines unheard of a century ago. The Opinion then states,

> "It is but an evenhanded application to require that those persons granted the benefit of a patent monopoly be charged with an awareness of these changed conditions. The same is true of the less technical, but still useful arts. He who seeks to build a better mousetrap today has a long path to tread before reaching the Patent Office."

The question of nonobviousness is also discussed and applied in *Anderson's-Black Rock, Inc. vs. Pavement Salvage Co., Inc.*, 396 U.S. 57, 24 L.Ed.2d 258. This case involved a combination patent on a piece of paving equipment wherein the patentee placed a radiant heat burner on the side of a standard paving machine, and the question was one of nonobviousness. The Opinion refers to Section 103 and quotes from the *Graham case*, and then held the combination was reasonably obvious to one with ordinary skill in the art. The concluding statement of the Opinion is:

> "We conclude that while the combination of old elements performed a useful function, it added nothing to the nature and quality of the radiant-heat burner already patented. We conclude further that to those skilled in the art the use of the old elements in combination was not an invention by the obvious-nonobvious standard. Use of the radiant-heat burner in this important field marked a successful venture. But as noted, more than that is needed for invention."

"Dairy Establishment" does not meet the test of nonobviousness. Claim 1 includes a list of component parts of dairy barns the way large numbers of them have long been built. Respondent admits there is nothing new in the claim of its patent in this respect (A. 75). Claim 1 and 3 also include as a component part the recitals of a floor washing means located over a region of the floor which is uphill from the drain, constructed to collect water as a pool above the floor and operable after such collection of water as a pool to disperse the water as a sheet of water over the floor; and further the floor washing means comprising a dam for damming and collecting water as a pool directly on the floor, and such dam abruptly openable to send such water as a sheet over the floor towards said drain means (A. 32-3). All that these claims describe is a *means*, not specified, of collecting a pool of water either above the floor or on the floor at the upper end of the dairy behind a dam which is abruptly openable to send a sheet of water over the floor for cleaning purposes. In other words, it merely recites that a pool of water is to be collected where it can be released quickly, and flow by gravity down the slope of the dairy barn floor, cleaning it. This is not invention. Because of gravity, and not invention, water will always run downhill. Furthermore, because of the general propensity of water, and not invention, water tends to loosen and carry with it matter that is deposited in its

path as it runs downhill. Generally, the cleaning action of water is directly related to the slope or grade of the floor and the volume of water that is released. This does not meet the test of nonobviousness.

Under 35 U.S.C. § 103, the scope and content of each element of the prior art are clearly set forth in the record, and the "means" to accomplish the flush in each case is water, although the volume that is released on any given occasion will vary. As a matter of law, it is reasonably obvious to one skilled in the art of dairy construction to increase the quantity of water to improve the quality of a "flush system." As a matter of law, it is a mere matter of "convenience" or "design" to have the water released from a storage tank located at the upper end of a dairy barn floor, as opposed to diverting a stream, or storing the water in an irrigation ditch or canal adjacent to the upper side of a dairy barn floor. Common sense would dictate that the stored water, however it is to be released, would not be located at the *lowest level* of a sloped floor. *Common sense also* dictates that the barn floor should be grated or sloped downhill in order to assist in the removal of the water. The damming or the storing of water is an admittedly old idea, and whether the water is stored in a tank, or in a ditch or canal adjacent to a barn, is not a "new or different function." The adoption of a dump tank to store the water directly on the floor of a basic plan for a modern dairy barn does not create a different use or function for either the water, or for the floor plan, nor by being joined together in a "combination" of admittedly old elements, does either element act differently in the combination than they would act separately and apart. *Lincoln Engineering, Anderson's-Black Rock*, and *Graham, supra*. Certainly the application of gravity to allow water to create its natural surging action as it flows downhill is not an idea spawned of invention, but rather is an application of a natural law of physics. *Concrete Appliances Co. vs. Gomery*, 269 U.S. 177, 70 L.Ed. 222 (1925).

The facts of this case can hardly be mentioned to anyone without getting an immediate response of "what about Hercules cleaning the Augean stables?" Which only goes to show that the concept of cleaning stables or barns by releasing a quantity of "flush water" onto the barn floor, to flow downhill, goes back to ancient times. The use of weirs or gates in streams, canals or flumes is likewise an ancient device for accumulating water in a pond, tank or ditch, and for releasing it onto a particular area for a specific purpose, as running a millwheel, irrigation, or cleaning a barn floor. The record in this case specifically shows that the weir system was used in dairies at Weed, Lodi and Bishop, California long prior to 1963 (A. 160-2). The modus operandi was to collect water from mountain streams in a ditch alongside the dairy barn, by using a weir or gate at the lower end of the ditch, which dammed it, and then, by use of a weir in the ditch at the upper end of the barn to release the water into the barn at its upper end. The water flowed across the end of the barn, and then, by gravity, down the slope of the barn floor, cleaning it (A. 204-8). Such a system is essentially the same as described in the Gribble patent. The weir system collects a pool of water adjacent to the dairy barn, and by use of a weir adjacent to the upper end of the dairy barn floor, releases the water onto the barn floor, where it flows down the grade of the floor, cleaning the floor as it goes.

With the language of the patent examiner as well as the patents themselves of record, the question of whether or not the prior art completely anticipates the patent in question can be determined as a matter of law. *Hughes Tool Co., supra*. The presumption of validity which attaches to an issued patent is not conclusive and can be rebutted even where the references relied upon were thoroughly considered by the Patent Office. *Zero Manufacturing Co. vs. Mississippi Milk Producers Association*, 358 F.2d 853 (5th Cir. 1966). See also *Butex Gas vs. Southern Steel Co.*, 123 F.2d 954 (5th Cir. 1941).

Mr. W. C. Fairbanks had a negative opinion as to the validity of the patent in question in view of the articles published in *Hoarde's Dairyman* (about Chester Whitmore's dairy), the *California Dairyman*, and *Western Dairyman* which were not brought to the attention of the Patent Office (A. 159-62, 171). There is certainly in the record nothing to indicate that the Patent Office had before it the first-hand knowledge of "flush systems" possessed by Mr. Robert Price, Mr. W. C. Fairbank, Mr. Emil Rovey, Mr. Frank Souza, Mr. Chester Whitmore, or Herbert Meyer prior to the time the patent in question was issued. Furthermore, the Hal Higgins' collection of "water flush systems" on file at the Davis Library was also not considered. When it is demonstrated, as in the instant case, that the Patent Office was not shown or did not consider pertinent prior art, any presumption that might otherwise attach to the validity of a patent is overcome. *B. F. Goodrich Co. vs. Rubber Latex Products, Inc.*, 400 F.2d 401 (1968); *Stamicarbon, N. V. vs. Escambia Chemical Corp.*, 430 F.2d 920 (5th Cir. 1970).

As this Court noted in *Graham, supra*, to-wit:

> "It is, of course, well settled that an invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office . . . Claims as allowed must be read and interpreted with reference to rejected ones and to the state of the prior art; and claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent."

As a matter of law, Claims 1 and 3 of the patent in question do not meet the test of Section 103 since the differences between them and the pertinent prior art would have been obvious to a person reasonably skilled in that art.

Overclaiming Causes Invalidity

Even assuming Respondent is correct in contending that the means claimed to collect water as a dam that can be suddenly released to allow the water to escape as a large volume to flow as a sheet over the floor of a dairy barn is a new or novel idea, Claim 1 and Claim 3 are still invalid because Respondent has overclaimed his invention by including within the "combination" all of the old elements of a standard dairy barn which are not patentable as being dependent and integral parts of the claim in question. Mr. Gribble testified that it was necessary to make Claim 3

dependent upon Claim 1 in order to properly frame the "flush system" (A. 22, 24-5, 75, 78). Mr. Fairbank was of the opinion that except for the single feature of a tank used to store water, the patent was much too broad (A. 170).

In *A & P Tea Co., supra*, this Court announced a basic proposition of patent law that an improvement, although maybe patentable in and of itself, can cause a patent to nevertheless be invalid for overclaiming the invention, by including old elements within the improvement, unless, together with its other old elements, the improvement made up a new combination patentable as such. See also *Stewart-Warner Corp., supra*. The individual elements, in the "combination" in which they are claimed as an invention, must satisfy the test of novelty and nonobviousness set forth above. A "claim" must adequately and specifically describe the patentable invention, because it is the "claim" of the patent, and not any particular device manufactured by the patentee to which the Court must look to to determine validity. *A & P Tea Co., supra*. As a practical matter, patents claiming narrow, specific inventions are much more likely to withstand the attack on anticipation or obviousness, than patents that make broad, general claims. *Sterner Lighting, Inc. vs. Allied Electrical Supply, Inc.*, 431 F.2d 539 (5th Cir. 1970).

Newly Discovered Evidence

Pursuant to the directive of the Court of Appeals, Fifth Circuit on June 25, 1973 (Appendix B, p. 6a-9a) Petitioner filed in the District Court an instrument entitled "Defendant's Motion For A New Trial" (A. 120-

30) which specifically raised the question of the newly discovered evidence Petitioner had uncovered since the date of trial on September 13, 1971, and *prior* to the date the Court of Appeals entered its decision of February 5, 1973 (Appendix C, p. 9a-22a) reversing the Trial Court Judgment in favor of Petitioner (A. 44-5).

In Paragraph 7 of "Defendant's Motion For New Trial", Petitioner *specifically identified* Mr. Herbert G. Meyer, Mr. Frank S. Souza, Mr. Emil Rovey, Mr. Chester Whitmore, and Mr. Dick Ripley as being the individuals whom Petitioner intended to call in support of his Motion For Newly Discovered Evidence of prior art of water flush systems that antedated Respondent's patent (A. 123).[9]

On February 6 and 7, 1974, a hearing on said Motion was held in El Paso, Texas before the Honorable John Wood, wherein Bernard A. Sakraida, Aubrey Wisdom, Emil Rovey, Frank Souza, Chester Whitmore, and Herbert G. Meyer all testified in support of Petitioner's contention of newly discovered evidence, and their testimony showed that as a matter of law Respondent's patent should be held invalid in that it was not new nor novel, and did not meet the test of being nonobvious. Additionally, the complete oral deposition of Mr. W. C. Fairbank, which had been taken at the request of Respondent on August 16, 1973, was also introduced into evidence before Judge Wood (A. 131).

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9 Respondent chose not to use the Federal Rules of Discovery to uncover the knowledge of prior art known by Mr. Rovey, Souza, Whitmore, and Meyer.

At the conclusion of the hearing, Judge Wood made the following pronouncement, to-wit:

> "All right. I find that the evidence adduced under the Motion For New Trial based on newly discovered evidence would, standing alone, and unchallenged and uncontroverted by opposing evidence, would overcome the judgment, since the evidence clearly shows that this flushing system was not new, not novel and did not meet the test of nonobviousness, and the prior use of the flushing systems was thus in anticipation of this patent. I will enter an order this date to this effect. That's all, you are excused" (A. 268).

Later that same day, Judge Wood entered his written Opinion of February 7, 1974 (A. 174-5), encompassing the quoted language above. In his Order of February 7, 1974, Judge Wood found that Petitioner exercised due diligence as required under Rule 60(b)(2) F.R.C.P., and that the evidence presented to the Court could not have been discovered in time to move for a new trial under Rule 59(b) F.R.C.P. The newly discovered evidence was found by the Court to be discovered "purely by chance" at a meeting in January of 1973 between Mr. Herbert G. Meyer and Bernard Sakraida.

The evidence of the "by chance" meeting in Florida in January of 1973, between Mr. Sakraida and Mr. Meyer is set forth in detail in the statement above (A. 177-80, 190-3, 255-7, 261, 263). The efforts of Mr. A. M. Wisdom to obtain information at the request of Mr. Sakraida about the Mission Dairy are of record (A. 195-7).

The evidence clearly supports the Trial Court finding that Petitioner was entitled to a new trial under the provisions of Rule 60(b)(2) F.R.C.P. because of newly discovered evidence, under the provisions of Rule 52 F.R.C.P. The evidence of record clearly supports the fact that Petitioner was never knowledgeably informed of facts surrounding the existence of the type of water flush system being used at the Mission Dairy by Mr. W. C. Fairbank in 1969, because the latter's letter of October 8, 1969 (A. 173), and his subsequent Affidavit of October 13, 1969 (A. 34-6) wholly failed to "cite" this location or Herb Meyer as an individual known to Mr. Fairbank as a possible source of prior art. Until such time as Petitioner had his "by chance" meeting with Mr. Meyer in Florida in Januaryof 1973, he was acting simply on hearsay statements, hardly better than rumor, which from a practical standpoint of Petitioner living in Florida, the suit pending in El Paso, and the Mission Dairy being located in California, didn't justify further expenditures in trying to check out. Located within the State of California were many dairies (A. 232, 244), and trying to pin down facts with respect to them while living in Florida was a difficult task, and frontsight, as distinguished from hindsight, showed Petitioner used due diligence, as the Trial Court so found. After personally visiting with Mr. Herbert Meyer in Florida in January of 1973, Petitioner took prompt and reasonable steps and showed diligence in bringing the new evidence of prior art to the attention of the Court in El Paso. The Trial Court properly exercised its discretion at the hearing in February of 1974, received the evidence, reviewed the standard of diligence required under Rule 60(b) F.R.C.P., and entered an appropriate Order

which is entitled to be upheld because not clearly erroneous. Rule 52 F.R.C.P. *Traylor vs. Pickering*, 324 F.2d 655 (5th Cir. 1963); *English vs. Mattson*, 214 F.2d 406 (5th Cir. 1954); *Bros., Inc. vs. Grace Manufacturing Co.*, 320 F.2d 594 (5th Cir. 1963).

The new evidence brought to the attention of Judge John Wood in February, 1974, was discovered solely by chance. Petitioner was not lacking in due diligence discovering said evidence, the evidence was material and of a nature that it would probably change any doubt as to the validity of Respondent's patent, and said evidence was not merely cumulative or impeaching. For the foregoing reason, Petitioner respectfully prays that the Trial Court finding that awarded him a new trial based upon new evidence, be affirmed, because the evidence clearly supports the conclusion that Respondent's patent was not new nor novel, and did not meet the test of being nonobvious under 35 U.S.C. § 103.

CONCLUSIONS

Respondent's combination patent entitled "Dairy Establishment" is not novel, and does not meet the test of being nonobvious under 35 U.S.C. § 103 to a person having ordinary skill in the art to which the subject matter of the patent pertains. Because "Dairy Establishment" does not satisfy the statutory test of patentability set forth within 35 U.S.C. § 101, 102 and 103, any other descriptive terminology that may be used to describe the effect or quality of the patent, such

as "synergistic effect" is legally immaterial upon which to base patent validity. The Opinion of the Court of Appeals for the Fifth Circuit which predicated patent validity did so on a basis that was not limited by the statutory language set forth in 35 U.S.C. § 101, 102 and 103. Because the correct standard for determining patent validity was not followed, the Fifth Circuit Judgment upholding validity must be reversed. This Honorable Court can review the question of validity as a question of law, and render Judgment in favor of Petitioner.

The Trial Court finding to the effect that this combination did not show invention, did not meet the test of nonobviousness when viewed by the standard prescribed by 35 U.S.C. § 103, and the further finding that Petitioner was entitled to a new trial because of newly discovered evidence, the evidence introduced being sufficient to rebut any presumption of validity of the patent, when viewed against the standard prescribed by Rule 52 F.R.C.P., are entitled to be affirmed and upheld because they are supported by credible evidence of record and are not clearly erroneous.

WHEREFORE, PREMISES CONSIDERED, Petitioner respectfully prays that this Honorable Court answer each of the questions submitted in the affirmative, that the Court invalidate the combination patent entitled "Dairy Establishment", that the complained of Judgments from the Court of Appeals, Fifth Circuit, be in all things reversed and rendered in favor of Petitioner, that Petitioner recover all of his cost and expenses incurred by said appeals, and that he have

such other and further relief to which under the law he is justly entitled.

Respectfully submitted,

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CERTIFICATE

I hereby certify that a copy of the above and foregoing Brief has this day been served upon opposing counsel of record by placing same in the United States Mail, postage prepaid and properly addressed on this the ___ day of December, 1975.

APPENDIX F

Art 1 § 8, cl. 8, United States Constitution

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

35 U.S.C. § 101 — Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title. July 19, 1952, c. 950, §§ 1, 66 Stat. 797.

35 U.S.C. § 102 — Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless —
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
(c) he has abandoned the invention, or
(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the

date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other. July 19, 1952, c. 950, §§ 1, 66 Stat. 797.

35 U.S.C. § 103 — Conditions for patentability; nonobvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, §§ 1, 66 Stat. 798.

APPENDIX G

The remarks have been carefully considered, however, they are not convincing. The method claims appear to include nothing more than conventional and necessary steps in the milking of cows in confined areas and cold climates. The apparatus claims fail to present new and novel limitations other than that shown in the applied references.

A claim such as 19 may be amended to avoid the art by including the dump tanks and dam positively and their respective location with the different areas and their co-operation so as to clean the different areas with the wash water and waste being collected in one tank for a desired purpose. Desired dependent claims may be added to depend from amended claim 19.

In view of the procedures set forth in 803 O. G. 893 this rejection is made *FINAL*.

The newly applied references are held to be necessitated by newly presented claims and amendments to the original claims. (R. 155).

JAN 5 1976

In the Supreme Court

of the United States

OCTOBER TERM 1975

No. 75-110

BERNARD A. SAKRAIDA,

Petitioner,

v.

AG PRO, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

BRIEF FOR RESPONDENT

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In the Supreme Court
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No. 75-110

BERNARD A. SAKRAIDA,

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On Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

BRIEF FOR RESPONDENT

OPINIONS BELOW

The opinions of the district court are not reported. The opinions of the Court of Appeals for the Fifth Circuit are reported as follows:

437 F.2d 99 (Feb. 1, 1971)—summary judgment
474 F.2d 167 (Feb. 5, 1973)—merits of the patent
481 F.2d 668 (June 25, 1973)—motion for new trial
512 F.2d 141 (April 24, 1975)—newly discovered evidence

QUESTIONS PRESENTED

1. Was the Court of Appeals correct in deciding that the evidence before the district court at the trial on the merits failed to overcome the statutory presumption of validity and that the Gribble and Bennett patent met the statutory requirements of validity, as well as the tests of patentability set forth by this Court?

2. Did the district court have jurisdiction to hear Sakraida's Rule 60(b)(2) motion for a new trial based on allegedly newly discovered evidence?

3. If the district court had jurisdiction to hear the Rule 60(b)(2) motion,

(a) did Sakraida meet the requirements of a Rule 60(b)(2) motion?

(b) would the allegedly newly discovered evidence have changed the outcome of the case?

(c) did the district court erroneously receive in evidence the allegedly newly discovered evidence?

STATEMENT OF THE CASE

Introduction

Although there have been numerous hearings and three appeals in this case, there was only one trial on the merits, on September 13, 1971 before Judge Guinn

(docket entries, A. 4).[1] Petitioner's (Sakraida's) brief and the amicus brief of The Texas Farmers Union combine the originally submitted evidence with the "newly discovered evidence" as if it had all been before the trial court at the time of the trial on the merits. The evidence now principally relied on to attack validity of the Gribble and Bennett patent was not before the trial court. However, as will be later explained, it was known or readily available to Sakraida who chose not to use it until after he had an unfavorable decision on the merits from the Court of Appeals.

In reviewing this case, it is important to maintain the distinction between the evidence introduced at the trial on the merits, and the "newly discovered evidence" introduced by Sakraida at the motion for new trial more than two years later. In order to evaluate the evidence in its proper order, we will first discuss the evidence presented at the trial on the merits and later Sakraida's "newly discovered evidence." The Gribble and Bennett patent and all the prior art references introduced in evidence at the trial on the merits appear in Supp. A. 11-105. As will be later explained, the allegedly newly discovered evidence clearly failed to meet the requirements of Rule 60(b)(2) F.R.Civ.P. Further, the Mission Dairy and Mr. Herbert Meyer's testimony, which was the key to all the other allegedly

[1] The printed Appendix in this Court will be referred to as "A.". The Supplemental Appendix prepared by respondent and filed with this brief will be referred to as "Supp. A." Respondent, Ag Pro Inc., plaintiff below, will be referred to as "Ag Pro". Petitioner, Bernard A. Sakraida, defendant below, will be referred to as "Sakraida."

newly discovered evidence, were legally insufficient as prior art. Accepting Mr. Meyer's testimony at face value, the Mission Dairy became operative on October 25, 1963 (A. 253). The Gribble and Bennett patent application was filed on November 5, 1963, but the invention was completed and a sale of the patented invention had taken place by the Spring of 1963 (A. 61). It is uncontested that the date of the Gribble and Bennett invention is at least six months prior to completion of the Mission Dairy.

The patent in suit

There had been a long standing problem in the dairy industry with respect to removal of offal from barn floors. Cleaning of barn floors has always been a tedious and loathsome part of dairying. The magnitude of the task will be appreciated when it is realized that the average cow produces about sixteen gallons of manure a day. Translating this into weight, about a ton of manure is produced each day by sixteen cows. Commercial dairy herds are numbered in the hundreds and thousands of cows. That means that one hundred cows will produce six tons of manure per day (A. 107) and a twenty-two thousand cow dairy, such as Mr. Sakraida had under construction in Florida (A. 192), produces one thousand three hundred twenty tons of manure per day.

Prior to the Gribble and Bennett invention, the best established methods of cleaning dairy barn floors were with high pressure hoses, tractor blades, shovels and brooms (A. 59-60, 99-100, 107-108).

Commencing in 1961 Gribble and Bennett, who had backgrounds in engineering and dairy operation, started working on the design of a barn which would solve this problem. In 1963, after considerable study and experimentation on various systems for cleansing barn floors, Gribble and Bennett filed an application for patent which resulted in the patent in suit (Supp. A. 11-17). The patent discloses a complete system for the automatic-hydraulic removal of waste products from floor areas in a barn and the ultimate deposition by a sprinkler system of these wastes in the form of liquid fertilizer on growing areas surrounding the barn. The patented invention is limited to the construction and arrangement of the floor areas of the barn and the means for storing a volume of water on, or immediately above, the floor so that when the water is suddenly released, it will clean all of the floor areas without the use of any hand labor. According to the patented invention, which is also known as the Ag Pro system, all barn floor areas are thoroughly cleaned in a matter of a few minutes where previously it tooks hours of disagreeable labor and the use of large quantities of water to achieve an inferior result (A. 27-33, 60, 69, 73, 101-103; Pl. Ex. 9).

Professor M. G. Huber, formerly of Oregon State University who specialized in animal waste disposal, testified that when he first learned of the patented system in 1963, it made a great impression on him. "It was a complete new concept in manure removal in cleaning the dairy barn, different than anything that had ever been used" (A. 108). Mr. Darrell Reed,

a dairyman from Waco, Texas who had knowledge of dairy practices in various parts of the United States, made an investigation of dairy barn cleaning systems in 1969 prior to purchasing the patented invention and came to the conclusion that it was "revolutionary" and vastly superior to any other system which was available (A. 98-101). Mr. Robert Price who operated a large dairy in El Paso and was called by Sakraida as his only witness at the trial, knew of no floor washing means like that of the Gribble and Bennett patent (A. 90-92). Mr. Sakraida, who had many years experience in building dairies testified at his deposition, May 16, 1969, that prior to working with Ag Pro on the Dawn Dairy job, he had never heard of a flush system like the patented one other than the one which Ag Pro had previously sold to Pine Hill [Pineyhill—West] (A. 10-11).

The patent contains three claims and Sakraida was charged with infringement of claims 1 and 3.[2] Claim 1, in simplified form, calls for the following elements:

1. a smooth paved floor;

2. drains in the floor;

3. the floors sloped toward the drains;

4. cow stalls having paved bottom surfaces elevated above the barn floor;

[2] Claim 2 is not now and never has been in issue. Ag Pro did not charge Sakraida with infringement of it and Sakraida never counterclaimed for a declaration of invalidity of all claims of the patent. *Timely Products Corp.* v. *Arron*, — F.2d —, 187 U.S.P.Q. 257, 262 (2 Cir. 1975).

5. the stalls being dimensioned so that a cow in the stall will discharge offal onto the barn floor;

6. feeding, holding, milking and cow transfer areas having paved floors forming part of the barn floor;

7. floor washing means for washing at one time any or all of the barn floor areas and discharging the cow offal into the drains;

8. the floor washing means being positioned uphill from the drains and constructed to collect a pool of water above a portion of the floor so that when the water is released it will flow as a sheet to wash the floor.

Claim 3 depends from claim 1 and specifies that the floor washing means is a dam on the floor that collects water in a pool directly on the floor, so that when the dam is abruptly opened the water is released as a sheet over the floor toward the drains.

At the time of the trial the patented invention had received recognition from commercial dairies as well as from academic institutions in various parts of the country (A 61). At that time, about seventy agricultural enterprises were licensed under the patent pursuant to a reasonable one payment standard licensing fee available to anyone — a single payment of fifteen hundred dollars per installation plus one dollar per cow (A 62-3; Pl. Ex. 1).

SUMMARY OF ARGUMENT

Gribble and Bennett made a patentable invention because it solved a longstanding problem in a manner different from the prior art to produce an unexpected function and result. Gribble and Bennett taught the use of a controlled volume of water dispersed as a sheet of water of very limited duration rather than continuous spot delivery of water by high pressure hoses. The Gribble and Bennett teaching was contrary to the prior art references and contrary to the knowledge of individuals of more than ordinary skill in the dairy industry. Although, according to legend, Hercules was supposed to have diverted a river through a stable to clean it, that knowledge never produced any solution to the problem. The failure of anyone to come up with a practical solution during the thousands of years that the Hercules legend was known is strong indicia of patentable invention.

The findings of the district court were clearly erroneous because there was no evidence to support them. The findings were highly suspect because the district court mechanically signed the very findings, obvious errors and all, which Sakraida's counsel submitted.

The Gribble and Bennett patent meets the rigorous test of patentability for patents made up of combinations of mechanical elements set forth in the *Lincoln, A & P* and *Black Rock* cases. In Gribble and Bennett the claimed elements combine in a manner different from any pre-existing combination to produce a new

function and a new result, i.e., a barn floor that used to take hours to be partially cleaned is immaculately cleaned in a matter of minutes. This is a truly synergistic result because it is the combination of the claimed elements acting in concert that produces an effect greater than the sum of the parts.

The Gribble and Bennett patent fully satisfies the *Graham* test of obviousness. Although the district court held the patent invalid for obviousness, it failed to apply the *Graham* test. The Court of Appeals carefully applied the test and concluded that Gribble and Bennett met it.

Just because the Gribble and Bennett invention is simple, particularly as a matter of hindsight, that does not make it unpatentable. It has long been recognized in the decisions of this Court that simplicity is no bar to patentable invention and an appraisal of an invention at the time it was made and the impact it had on an industry, rather than hindsight, is the correct test of a patent. The simplicity of the Gribble and Bennett patent in using old elements which no one had theretofore combined to produce an unexpected result is good indication of unobviousness and patentable invention.

There is nothing improper in utilizing natural forces in a patented combination. Gribble and Bennett did not patent the effect of gravity. They claimed a specific structural combination which among other things utilized the force of gravity. In the *Eibel* case this Court specifically recognized that a small mechan-

ical change which took advantage of the force of gravity to produce a material improvement in paper manufacture was patentable invention.

The claims of the patent are not invalid for overclaiming. Unlike the *Lincoln*, *Bassick* and *Rogers* cases there is here no charge of contributory infringement against one who used an old part which was adapted for use with either the new element or with old devices. All of the elements called for in the claims are necessary to define an operative system which will produce the surprising result. Even though the washing means of Gribble and Bennett may be called the crucial element, it could not be claimed separately because the desired result cannot be achieved without combining it with the other recited elements in the claims. If the Gribble and Bennett claims did not contain all the recited elements they would be open to the attack of failing to define an operable invention and in violation of 35 U.S.C. § 112 which requires that the claims of a patent particularly point out and distinctly claim the invention.

The district court did not have jurisdiction to hear Sakraida's Rule 60(b)(2) motion for new trial based on newly discovered evidence because such a motion must be made within one year of final judgment in the *district* court. Sakraida made the motion twenty-two months after entry of the district court's final judgment. There is no jurisdiction in this Court to consider Sakraida's "newly discovered evidence".

In order for a district court to grant a motion for

new trial based on newly discovered evidence there are five requirements, each of which must be met. The first two of those requirements are that the evidence must be discovered after the trial, and the moving party must allege facts from which the court may infer diligence on the part of movant in discovering the evidence. Sakraida failed to meet either of those two requirements.

Sakraida as well as his attorney were specifically told by their agricultural expert two years before the trial of the existence of a manure flushing system at the Mission Dairy in Gonzales, California which was very similar to the patented one. They asked a friend to visit the Mission Dairy which was a showplace dairy open to visitors. When the friend reported back that the manager had refused him entry they did nothing more to find out about the dairy. Sakraida chose not to develop any evidence concerning the Mission Dairy, by pretrial discovery proceedings or otherwise, because he had a summary judgment in his favor and decided that he did not need evidence concerning the Mission Dairy to win in the district court.

It was not until after the Court of Appeals decision reversing the district court and upholding validity of the patent that Sakraida showed any diligence. At that time he received the quick and full cooperation of the owner of the Mission Dairy, Mr. Meyer. Mr. Meyer not only provided Sakraida with complete, detailed information concerning Mission Dairy, but also concerning Messrs. Souza, Rovie and Whitmore and their alleged dairy installations. Mr. Meyer testi-

fied that he had this information since 1961 or 1962 and that he was the key to providing Sakraida with all of his "newly discovered evidence". There were no facts from which the district court could have inferred diligence on the part of Sakraida in discovering the new evidence prior to trial. Just the opposite was the case and the Court of Appeals correctly set aside the findings of the district court and held that the evidence was not newly discovered and in any event could have been discovered by the exercise of reasonable diligence before trial.

The evidence concerning the Mission Dairy would not change the outcome of the case because it was completed too late to serve as prior art. The Mission Dairy was not completed and in operation until the end of October 1963. The Gribble and Bennett invention was completed and the first sale of the patented dairy barn construction was made in the Spring of 1963. Mission Dairy is at least six months too late to be used as prior art against the Gribble and Bennett patent.

The "newly discovered evidence" was improperly received in evidence for several reasons. More than five months prior to the hearing on Sakraida's motion for new trial, Ag Pro served on Sakraida a motion pursuant to Rule 34 F.R.Civ.P. to produce all documentary evidence purportedly disclosing prior art pertinent to the patent in suit. The motion was resisted by Sakraida for no valid reason. The district court erroneously denied Ag Pro's repeated attempts to obtain those documents prior to trial. At the trial the

Court permitted Sakraida to place in evidence all the documents he wished that purportedly disclosed prior art pertinent to the Gribble and Bennett patent.

Further, prejudicial error was committed by the district court in receiving in evidence all of the documents offered by Sakraida at the hearing on his motion for new trial, as well as the testimony of Messrs. Rovie and Whitmore. 35 U.S.C. § 282 requires a party to give thirty days notice prior to hearing to the other party specifically identifying any documents or witnesses he intends to rely upon to anticipate the patent or show prior knowledge, use, or sale of the patented invention. In the absence of such notice no proof of those matters will be received except upon such terms as required by the court. The district court received all this evidence without requiring any terms from Sakraida, and when Ag Pro's counsel attempted to put in rebuttal evidence the court informed him that the evidence was closed. The district court then passed directly on the merits of the Gribble and Bennett patent after having previously repeatedly stated that it would not pass on the merits.

The amicus brief of The Texas Farmers Union is premised on an erroneous understanding of at least two uncontradicted facts in this case. (1) If the Gribble and Bennett patent is upheld, Ag Pro will not exact an expensive toll from farmers because everyone has always been able to get a license by the payment of a single modest fee. (2) The Mission Dairy was not in existence more than one year before the filing date of the Gribble and Bennett patent application but

came into existence after the date of the Gribble and Bennett invention and is, therefore, not prior art.

The argument in the Texas brief that Rule 60(b) should be interpreted differently in patent cases from other cases because of reasons of public interest is unsound. In any event, there is no matter of public interest in the present case that would suggest such a chaotic way of interpreting the Federal Rules.

ARGUMENT

Gribble and Bennett made a patentable invention.

Perhaps the strongest evidence of patentable invention is the solution of a longstanding problem in an industry. In this case we have an age old problem because ever since man first housed cattle, the removal of their offal has plagued him. Although we have known since antiquity the legend of Hercules cleansing the Augean stables by diverting the river Alpheus through the stables, this never sparked any solution to the dairymen's problem. Probably because the effect on the buildings and occupants of a rushing torrent, as well as anyone downstream, was more devastating than the problem. In any event, as shown by the prior art cited against Gribble and Bennett in the Patent Office (Supp. A. 18-105), the attempts to solve the problem by those most knowledgeable in the industry were in the opposite direction. They taught the spot delivery of water from relatively high pressure hoses which directed a stream of water that selectively impinged on the refuse material. As opposed to that Gribble and Bennett taught the sudden release of a controlled volume of relatively low pressure water that dispersed as a sheet or wave which cleaned all floor areas almost instantaneously.

When the patented construction is described to dairymen, most of them don't think that it will work, but once they have seen an installation in operation, they are convinced and become very enthusiastic about the invention (A. 61-62). Because it is necessary for comprehension of the invention, even for those skilled in the art, to see the patented invention in actual operation, it is important that the Court view the two and one-half minute film strip which was shown to the Fifth Circuit at the argument on the merits. At that time the judges on the panel indicated that the movie assisted them in understanding the invention and it is specifically mentioned in the court's opinion, 474 F.2d 167, 170. The film is a condensed version of a much longer one shown and described to the district court (A. 70-73; Pl. Ex. 9). It is the only way, short of an on-site inspection, that this Court can appreciate the dramatic manner in which the invention changes a filthy barn floor into an immaculate one in less than two minutes without the use of any hand labor.[3] The film has been lodged with the Clerk of the Supreme

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[3] In *Goodson-Todman Enterprises, Inc.* v. *Kellogg Co.*, 513 F.2d 913 (9 Cir. 1975) the court commented on the assistance it received in viewing a film in a copyright case. See particularly Judge Ely's concurring and dissenting opinion in which he states that the viewing of the film was dispositive of the merits of the case.

Court so that the Justices will have it (as well as the longer version Pl. Ex. 9) available to them for viewing prior to argument as well as during their deliberations. The few minutes it takes to view the film will make clear what thousands of words of description cannot adequately describe.

Professor M. G. Huber, with degrees in both agriculture and mechanical engineering from the University of Wisconsin and the author of thirty or more publications relative to dairy housing and animal waste disposal, specialized in the design of farm buildings and animal waste disposal. He had extensive practical as well as academic experience in the art with which we are particularly concerned (A. 104-105). He testified that when he first saw the patented system in 1963 it was a completely new concept to him in the removal of manure from a barn, and different from anything that he had ever known (A. 108). Professor Huber testified in detail concerning the prior art relied on by Sakraida at the trial and concluded that none of it either individually or in combination taught the patented invention (A. 113). His detailed testimony appears at A. 109-113 and the Court of Appeals summarized it in its opinion, 474 F.2d at 170-71.

The testimony of Mr. Darrell Reed, a dairyman who had substantial knowledge of dairy practices in various parts of the United States, also strongly indicated the existence of patentable invention in the Gribble and Bennett patent. He testified:

"Q. Will you relate to us as completely as you

can what your impression was when you saw the Ag Pro system?

A. Well, of course this was so revolutionary from the methods we had been using over the years, and like I say, I think I was kind of born on the end of a manure scoop. We had done this since childhood and the thing I think that probably impressed me the greatest was the cleanliness of the thing after the flush. This was, as I was referring to it later, it was the clean, clean, you know, much better than what we had been able to do with our scrapers and hoses and so forth in the past." (A. 101).

* * *

"Q. — I would — excuse me, I would like for you to compare cleaning under the old — the best old method that you were familiar with and how long it would take to do a comparable job with the Ag Pro system.

A. Well, I will have to speak for my own cow group. We have 62 cows to a group. They are housed, fed and everything within this area. The physical time involved in cleaning that with this system is two or three minutes. In other words, the length of time it takes to drop our gates and close them back up. Now to try to compare that to a comparable cleaning job is a little difficult but to blade it off and hose it down and come to the same degree of cleanliness, I would say, it would take a minimum of about three hours to drag this out and hose it and broom it down to this degree.

Q. As a practical matter, did you, under the old system, ever maintain all of these areas, not just the milking area but all the living areas under these conditions of sanitation?

A. No, sir.
Q. Such as you have with the Ag Pro system?
A. No, sir.
Q. Why didn't you?
A. It was just not feasible.
Q. You are talking about the economics of it?
A. From an economic standpoint you never could accumulate that much labor to clean and hose and brush that large an area. It was just not feasible." (A. 102-03).

Mr. Robert Price, the expert called by Sakraida to testify at the trial, operated a large dairy in El Paso, Texas and over the years became familiar with the dairy business nationally by visiting dairies in various parts of the United States (A. 84-5). Mr. Price testified that he knew of no prior floor washing means like that of the Gribble and Bennett patent (A. 89, 92), nor had he heard of diversion of a stream or the like to wash the floor of a dairy barn in this country. The only thing of that nature Mr. Price knew about were some pictures an associate of his took in 1967 in Costa Rica of diversion of a stream through a barn (A. 90-91). Mr. Price testified:

"Q. Let's talk about this country. Did you ever know of a barn cleaning system that existed in this country prior to 1963 in which the water was collected as a pool on or above the floor of the barn?
A. My own knowledge?
Q. Tell me about your own installation.
A. I have a large storage tank that holds 50,000 gallons. We have a pressure pump connected to this and using two or three hoses with

at least 50 pounds of pressure we flood the water — flood the floor and wash the offal.
Q. Through hoses?
A. Through hoses, yes, which are outlets to the tank, as far as I am concerned.
Q. The water comes out from a nozzle of a hose, doesn't it?
A. That is the means of transportation, yes.
Q. Did you ever hear of any barn where there was such a tank and the tank and the water were suddenly released to flood, to wash down as a sheet of water?
A. Prior —
Q. — to 1963?
A. No, I have not." (A. 92).

At the trial on the merits, Sakraida relied solely on the testimony of Mr. Price, five prior art patents, two articles, and the record made in connection with Sakraida's motion for summary judgment (A. 93-7). That record included the affidavits of Fairbank, Sakraida and Sharp (A. 34-44) which were simply conclusory statements that at some unidentified locations in Weed, Lodi and Bishop, California, flush systems like the patented one existed prior to 1963. Nothing was said in those affidavits as now argued by Sakraida concerning the use of weir boards or gates (Pet. Br. 45). The Court of Appeals quite correctly dismissed these affidavits as adding little to the understanding of the prior art, 474 F.2d at 170.

The Patent Office file history of the Gribble and Bennett patent was before the trial court, and Sakraida argues that some of the initial statements

made by the Patent Office Examiner during the course of prosecution of the application support the district court's findings of fact (Pet. Br. 12-15). This argument ignores the fact that the final opinion of the Examiner was that the finally presented claims in the Gribble and Bennett patent application defined patentable invention over the prior art and particularly McCornack Patent 2,081,947 (Supp. A. 55, Def. Ex. 7) and Bogert Patent 2,233,766 (Supp. A. 75, Def. Ex. 8). McCornack disclosed a plurality of water pipes located at numerous locations to discharge water under pressure to narrow gutters in the floor. Bogert is similar in that again he relied on a plurality of pipes to deliver water under pressure to gutters. Neither of these patents had any suggestion of collecting water behind a dam on the barn floor, for sudden release to produce a wave-like action which almost instantaneously cleans all barn floor areas.

There was simply no evidence, much less substantial evidence, to rebut the statutory presumption of validity, 35 U.S.C. § 282 (Supp. A. 4). That presumption is not an idle gesture, and the burden of establishing invalidity rests heavily on the party asserting it. *Radio Corp.* v. *Radio Engineering Lab.*, 293 U.S. 1, 7 (1934); *Mumm* v. *Decker & Sons*, 301 U.S. 168, 171 (1937).

The findings of the district court were clearly erroneous

All of the evidence before the district court indi-

cated that Gribble and Bennett had made a patentable invention. It was not a question of weighing the evidence and deciding whether Sakraida's evidence overcame the statutory presumption of validity. There was simply no evidence on which the patent could be invalidated. In setting aside the district court's findings the Court of Appeals was only carrying out the "clearly erroneous" requirement of Rule 52(a) F.R. Civ.P.

In addition to the findings being contrary to the evidence, they were highly suspect because they were not the independent work product of the district court. The lack of care and attention given the matter by the district court was indicated by its mechanically signing the very findings and conclusions submitted by Sakraida's counsel which contained a number of obvious errors. If the court had gone to no more trouble than to have a secretary proofread or even recopy Sakraida's findings prior to signing them, at least some of those errors would have been caught.[4]

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[4] These obvious errors in the findings are as follows: (1) Ag Pro did not charge Sakraida with infringement of claim 2 which is the only claim calling for a water dump tank, yet throughout the findings reference is made to the tank as if it were an element in controversy. Sakraida made no counterclaim for declaration of invalidity of all the claims of the patent and thus claim 2 has never been in issue. (2) Finding 2(b) "scuffer" should be — scupper — (A. 48). (3) Finding 3 the date on which Ag Pro filed its supplemental memorandum in opposition to Sakraida's motion for summary judgment was left blank (A. 51). (4) Finding 4 beginning line 4 states "the Holz patent, the Ingraham patent, the Kreutzer patent," (A. 51). There were two Holz patents, and one Ingraham patent cited in the Patent Office (Supp. A. 17) but none of them were put in evidence. Sakraida put two Kreutzer patents in evidence (Supp.

In *United States* v. *El Paso Natural Gas Co.*, 376 U.S. 651, 656 (1964), the Court said "Those [findings] drawn with the insight of a disinterested mind are, however, more helpful to the appellate court[4]." In footnote 4, the Court quoted with approval Judge Wright's sharp criticism of trial judges who mechanically sign findings put under their noses by the prevailing party's lawyer.

The Gribble and Bennett patent meets the test of patentability enunciated by this Court in the latest series of cases that invalidated patents

In order to decide the present case, it is unnecessary for the Court to resolve any conflicts[5] which may exist between *Black Rock*[6] and earlier cases. The Gribble and Bennett invention meets the rigorous test of patentability stated by the Court in its latest series of cases which invalidated patents claiming combinations of mechanical elements.

In the *Lincoln*,[7] *A & P*,[8] and *Black Rock* cases the

A. 27-54, Def. Exs. 5, 6). (5) Finding 5, line 9 in the original document, the word "flushing" was spelled "flusing" but was inadvertently corrected in the printed appendix (A. 52). (6) Conclusion 5, line 7 "existant" should be — existent — (A. 54). (7) In the last paragraph of "Conclusions of Law," the name of the defendant in the case is — North Plains Fertilizer and Chemical Inc. — and not "North Plains Fertilizer & Co." (A. 55).

[5] "After Black Rock: New Tests Of Patentability — The Old Tests of Invention", 39 Geo. Wash. L. Rev. 123 (1970), Supp. A. 106-134.

[6] *Anderson's-Black Rock* v. *Pavement Salvage Co.*, 396 U.S. 57 (1969).

[7] *Lincoln Engineering Co.* v. *Stewart-Warner Corp.*, 303 U.S. 545 (1938).

[8] *Great A. & P. Tea Co.* v. *Supermarket Equip. Corp.*, 340 U.S. 147 (1950).

Court reiterated a test for determining patentability of inventions involving combinations of mechanical elements, i.e., that old elements must combine to produce a new or different function or operation from what they previously performed or produced. However, in *A & P*, the Court expressly recognized that patentable invention could reside in a new combination of old elements.[9]

Throughout the opinion in *Lincoln*, it is stressed that the invention resided in the improved "coupling member" and that combining that element with the other old elements failed to produce a "new or different function or operation" and was, therefore, not patentable. However, there is no holding in that case or any other, that a combination of old elements could not be the subject of a valid patent.

In the *A & P* case, the Court stated at the beginning of its opinion that the allegedly new element, a counter with an extension, was never claimed as such. The Court said, 340 U.S. at 149:

> "In the first place, the extension is not mentioned in the claims, except, perhaps, by a construction too strained to be consistent with the clarity required of claims which define the boundaries of a patent monopoly."

The Court went on to say that the patent would not be invalid for overclaiming if its other old elements "made up a new combination patentable as such." The Court then said, 340 U.S. at 152:

[9] 340 U.S. at 150.

> "The conjunction or concert of known elements must contribute something; only when the whole in some way exceeds the sum of its parts is the accumulation of old devices patentable."

In *Black Rock*, the Court said that the radiant heat burner which had been attached to a standard paving machine had previously been patented as such and that the operation of the heater was in no way dependent on the operation of the other equipment on the paving machine. The Court also stressed that the presence of the radiant-heat burner in the same machine with the other elements was not critical or essential to the functioning of the radiant-heat burner in curing the problem of the cold joint.[10]

In Gribble and Bennett, the floor washing means cannot perform its required function independently from the other elements recited in the claims. The uncontested evidence is that the presence of the floor washing means with the other elements is critical and essential to the functioning of the floor washing means to cleanse a barn floor (A. 75).

In *Black Rock*, the Court said that a combination of elements may result in an effect greater than the sum of the several effects taken separately but that no syngeristic result had been argued in that case."[11]

The Gribble and Bennett combination of elements results in an effect greater than the sum of the several effects to produce a syngeristic result as required by *A & P*, i.e., cleansing of a barn floor to an immaculate condition in a matter of minutes where it used to take hours of hard labor to produce an inferior result.

[10] 396 U.S. at 59, 60.
[11] 396 U.S. at 61.

The requirement of *Lincoln, A & P* and *Black Rock* that the combination of elements must contribute something new or different or exceed the sum of the parts is fully met by the combination claimed in Gribble and Bennett.

There was no attack and the district court did not find that Gribble and Bennett failed to meet the novelty and usefulness requirements of 35 U.S.C. §§ 101 and 102 (Supp. A. 2-3). However, the district court concluded that the patent was invalid for obviousness, 35 U.S.C. § 103 (A. 53, Supp. A. 4), but it failed to apply the obviousness test required under *Graham* v. *John Deere Co.*, 383 U.S. 1, 17 (1966):

> "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

The Court of Appeals recognized the necessity of applying the *Graham* test, carefully reviewed the evidence in the light of that test and came to the conclusion that the invention was not obvious and the patent valid.

The scope and content of the prior art was the same as that which was considered and overcome in the United States Patent Office. Ag Pro has never

denied that the prior art showed the existence of dairy barns having smooth paved surfaces; floor drains; cow stalls having paved bottom surfaces elevated above the barn floor; stalls dimensioned so that a cow in the stall will discharge offal in gutters; feeding, holding, milking and cow transfer areas all having paved floors; high pressure hoses and sprinkler systems for discharging water into gutters and onto barn floor areas; pools of water, and water tanks. However, none of the prior art ever combined the elements as taught by Gribble and Bennett or showed a floor washing means constructed to collect a pool of water above a portion of the floor so that when the water was released, a controlled amount flowed as a sheet which almost instantaneously cleaned all barn floor areas and discharged the cow offal into drains where it was collected and utilized. The concept is not only different from anything that previously existed, but contrary to the prior art teachings of cleaning barn floors with scrapers, hoses, sprinklers, or a river. The patented system resulted in an elimination of clean-up labor cost, lower capital investment, use of substantially less water and an unheard-of degree of cleanliness (A. 60, 70-73, 101).

The differences between the prior art and the claims at issue as mentioned above, reside in the combination and in the floor washing means defined in claims 1 and 3.[12]

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[12] Claim 1.
"... floor-washing means for washing the floor providing the walking surface in the barn where said floor bottoms said feeding, holding, milking and transfer areas operable to send wash water flowing over the floor with such water washing any cow offal thereon into said drain means, said floor-washing including means located over a region of said floor which is uphill from said drain means constructed to collect water as a pool above said floor and operable after such collection of water as a pool to disperse the water as a sheet of water over said floor."

Claim 3.
"The barn of claim 1, wherein said floor-washing means comprises a dam for damming and collecting water as a pool directly on the floor, and such dam is abruptly openable to send such water as a sheet over the floor toward said drain means."

The third factual inquiry required by the *Graham* case is the level of ordinary skill in the pertinent art at the time the invention was made. The prior art documents previously discussed show what the published level of the state of the art was. As far as practical knowledge, the testimony was that shovels, brooms, tractor blades and high pressure hoses were the best ways up until the time of Gribble and Bennett to clean barn floors. It is uncontradicted that the patented combination of elements was able to produce the result of cleaning a barn floor without any hand labor in a matter of a few minutes, where previously it took hours of disagreeable, hard labor to produce an inferior result. This is a new, different and unexpected result. Gribble and Bennett combined existing elements in such a way as to produce a result which was of a completely different nature from that produced by the sum of the elements taken independently. This is a synergistic result which is patentable under any test applied by this Court in cases which either

invalidated or upheld patents.[13]

All of the evidence established that the patented combination produced a dramatic functional change over the prior art. Even though water collected in large tanks or in pools existed previously, no one prior to Gribble and Bennett ever suggested that it could be abruptly released as a sheet and used as a floor washing means in combination with the other necessary elements of barn construction. The combination was not obvious to a person skilled in the art because neither Mr. Sakraida nor his experts, Messrs. Fairbank and Price, had ever heard of the combination, and Messrs. Reed and Huber, who had at least more than ordinary skill in the art, testified that it was revolutionary and completely different from anything they had ever known.

Simplicity of an invention does not indicate obviousness but may well indicate nonobviousness

There is a disarming simplicity in the Gribble and Bennett invention, particularly as a matter of hind-

[13] *United States* v. *Adams*, 383 U.S. 39 (1966); *Webster Loom Co.* v. *Higgins*, 105 U.S. (15 Otto) 580 (1882). In *Illinois Tool Works, Inc.* v. *Sweetheart Plastics, Inc.*, 436 F.2d 1180, 1187 (7 Cir. 1971), cert. den. 403 U.S. 942 the court said:

> "This 'synergistic effect' test is especially applicable where, as here, the use of two or more elements together both increases the effectiveness of one of the elements *and* successfully achieves something denied the marketplace in the past."

See also *Tapco Products Co.* v. *Van Mark Products Corp.*, 446 F.2d 420, 427 (6 Cir. 1971), cert. den. 404 U.S. 986.

sight. Sakraida's brief stresses that all Gribble and Bennett did was to use ordinary, simple parts and come up with a simple solution which is therefore obvious and unpatentable. The solution now appears to be simple only after Gribble and Bennett taught the industry how to put the old elements together in a way that they never previously had been combined to produce an unexpected result. Sakraida uses a hindsight test rather than an evaluation of the invention at the time that it was made and the effect it had on the industry and knowledgeable people in the art.[14] **If in fact it had been so obvious and simple to do what Gribble and Bennett did, someone would have done it prior to them.** As this Court said in *Diamond Rubber Co.* v. *Consol. Rubber Tire Co.*, 220 U.S. 428, 434-35 (1911):

> "Its simplicity should not blind us as to its character. Many things, and the patent law abounds in illustrations, seem obvious after they have been done, and, 'in the light of the accomplished result,' it is often a matter of wonder how they so long 'eluded the search of the discoverer and set

[14] In *Safety Car Heating & Lighting Co.* v. *General Elec. Co.*, 155 F.2d 937, 939 (2 Cir. 1946), Judge Learned Hand said:

> "In appraising an inventor's contribution to the art, as we have often said, the most reliable test is to look at the situation before and after it appears. Substantially all inventions are for the combination of old elements; what counts is the selection, out of all their possible permutations, of that new combination which will be serviceable . . . and — perhaps most important of all — the extent to which it superseded what had gone before. We have repeatedly declared that in our judgment this approach is more reliable than a priori conclusions drawn from vaporous, and almost inevitably self-dependent general propositions."

See also Judge Hand's opinion in *Reiner* v. *I. Leon Co.*, 285 F.2d 501, 503-04 (2 Cir. 1960), cert. den. 366 U.S. 929.

at defiance the speculations of inventive genius.' [citations omitted.] Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skilful attention."

The *obviousness* test of patentability had its origins almost one hundred years ago in the decisions of this Court. In *Webster Loom Co.* v. *Higgins*, 105 U.S. (15 Otto) 580, 591 (1882) the Court said:

"This argument would be sound if the combination claimed by Webster was an *obvious* one for attaining the advantages proposed, one which would occur to any mechanic skilled in the art. But it is plain, from the evidence and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skillful persons. *It may have been under their very eyes, they may almost be said to have stumbled over it; but they certainly failed to see it*, to estimate its value and to bring it into notice. Who was the first to see it, to understand its value, to give it shape and form, to bring it into notice and urge its adoption, is a question to which we shall shortly give our attention. At this point we are constrained to say that we cannot yield our assent to the argument, that the combination of the different parts or elements for attaining the object in view was so *obvious* as to merit no title to invention. Now that it has succeeded, it may seem very plain to anyone, that

he could have done it as well. This is often the case with inventions of the greatest merit." (emphasis added)

And ten years later in *Washburn & Moen Mfg. Co.* v. *Beat 'Em All Barbed Wire Co.*, 143 U.S. 275, 282, 283 (1892) the Court quoted with approval from *Webster* the first portion of the above cited quotation in which the word "obvious" was used.

The early origin of the obviousness test was apparently not brought to the attention of the Court in the *Graham* case, because *Webster* and *Barbed Wire Patent* were nowhere referred to in its opinion. There is a close factual and legal similarity between the present case and those cases (combinations of relatively simple mechanical elements) and we respectfully urge the Court to review those decisions. We believe that the Gribble and Bennett invention was not obvious for the same reasons as found in *Webster* and *Barbed Wire*.

On numerous occasions this Court has expressly said that simplicity does not negate invention and that hindsight may not be used to equate obviousness with simplicity. [15] Likewise the courts of appeals have followed this Court's decisions and rejected the argument

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[15] *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac*, 321 U.S. 275, 279 (1944); *Expanded Metal Co.* v. *Bradford*, 214 U.S. 366, 381 (1909); *C. & A. Potts & Co.* v. *Creager*, 155 U.S. 597, 607-08 (1895); *Krementz* v. *S. Cottle Co.*, 148 U.S. 556 (1893); *Washburn & Moen Mfg. Co.* v. *Beat 'Em All Barbed Wire Co.* (The Barbed Wire Patent), supra at 277; *Webster Loom Co.* v. *Higgins*, supra at 591.

that simplicity of an invention means obviousness.[16]

We believe the Fifth Circuit in this case correctly and succinctly stated the test of obviousness laid down by the statute, 35 U.S.C. § 103, and the decisions of this Court when it said:

> "The crucial issue of obviousness can only be resolved through reference to the precise facts presented, not through logical or intuitive analysis distorted by the invention's simplicity and retrospective self-evidence." (474 F.2d at 169-70)

Gribble and Bennett did not patent the idea of using gravity to make water flow downhill

At numerous places in his brief Sakraida argues that the patent is invalid because "gravity and not invention" causes water to run downhill and that all that Gribble and Bennett did was to patent the use of water running downhill. The Gribble and Bennett

[16] Some such relatively recent decisions are: *Norman* v. *Lawrence*, 285 F.2d 505, 506 (2 Cir. 1960); *Shaw* v. *E. B. & A. C. Whiting Company*, 412 F.2d 1097, 1104-05 (2 Cir. 1969); *Allen* v. *Standard Crankshaft & Hydraulic Company*, 323 F.2d 29, 34 (4 Cir. 1963); *Arnold Pipe Rentals Co.* v. *Engineering Enterprises, Inc.*, 350 F.2d 885, 890 (5 Cir. 1965). In *National Dairy Products Corporation* v. *Borden Company*, 394 F.2d 887, 890 (7 Cir. 1968), cert. den. 393 U.S. 953, the court pointed out that the fact that the individual old elements were available to the industry for a long time and no one had previously combined them was good evidence of nonobviousness. In *Woodstream Corporation* v. *Herter's, Inc.*, 446 F.2d 1143, 1150, 1157 (8 Cir. 1971) the Eighth Circuit after noting that it had not upheld validity of a patent since the *Graham* case, reversed a district court finding of invalidity on a patent for a simple animal trap even though the invention might appear obvious through the use of hindsight.

patent does not attempt to patent the idea of gravity's effect on water running downhill. What is described and claimed in the patent is a particular building construction in which, along with the other necessary elements, a pool of water is collected so that when abruptly released the force of gravity acting on the water produces a fast moving sheet of water that performs the washing action. Because Gribble and Bennett use gravity flow of water, rather than the pressure produced when water is forced through a nozzle to clean, does not mean that they attempted to patent gravity.

It is perfectly proper to utilize natural forces in patented combinations, and it was specifically so held with respect to gravity by this Court in *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45 (1923). The invention in that case was for an improvement in the Fourdrinier paper-making machine and involved lifting one end of the moving wire of the machine about fifteen inches so that, as the stock flowed onto it, it had the added force of gravity and it would travel at about the same speed as the wire. By using gravity to increase the speed of the stock, a rippling effect, which previously had caused problems in paper making was eliminated, and production of paper was increased about twenty percent. The court of appeals had reversed the district court and invalidated the patent believing that all that the patentee had done was to obtain a patent on the principle that water will run downhill. This Court reversed and held the patent valid, and quoted with approval a statement

by the district judge that the Eibel invention involved the use of gravity with other elements.[17]

The Gribble and Bennett claims are not invalid for overclaiming

Sakraida argues that the patent is invalid for overclaiming (Pet. Br. 47-8), citing *Lincoln Engineering Co.* v. *Stewart-Warner Corp.*, 303 U.S. 545 (1938). The underlying facts in *Lincoln* are significantly different from the present case. First it should be remembered that *Lincoln* involved an action for contributory infringement, rather than one for direct infringement which is our case. In *Lincoln* the patentee developed a new coupling by which a pressure actuated grease gun could be connected to a nipple fitting for lubricating bearings, especially those of automobiles. The nipple fitting with which the coupling was to connect, and the pressure-operated grease gun on which the coupling was mounted were both old, and were adapted for use either with the patentee's new coupling or with previously known couplings. In claiming the invention, the patentee recited a com-

[17] " 'The process invented by him [Eibel] begins to operate after the stock has entered upon the wire. His apparent attempt was to get rid of bubbles and wrinkles before he got to the place on the machine where paper is formed. To do this, he allowed gravity to work with "drag" and with "head." He harnessed all the elements he could find. He brought gravity in with the other elements; and so brought the speed of the stock up to equality with that of the wire. By this means he achieved high speed and also freed the stock on the wire from waves and ripples.' " (261 U.S. at 64)

bination including the old nipple fitting with which the new coupling was adapted to be used. As noted by the Court, the nipple fitting was not necessary to the framing or recitation of an operative combination to define the invention, because the coupling was the novel feature and could have been claimed separately. The patentee sued defendant for contributory infringement for selling old style nipple fittings which were merely adapted for use with the new coupling. Thus, it was evident, that the patent holder was attempting illegally to extend the monopoly granted under the patent to include old fittings adapted for use either with old couplings or with the new coupling.

The Court in *Lincoln* was concerned that the patentee was not merely trying to protect against others making, using and selling the new coupling, but instead was attempting to extend his patent monopoly to cover sellers and users of old nipple fittings which were adapted for use with either the new or old style couplings. To prevent this the Court invalidated the patent citing overclaiming.

While the rationale of the *Lincoln* case has been termed unclear and its citation of *Rogers* v. *Alemite Corp.*, reported with *Bassick Mfg. Co.* v. *Hollingshead Co.*, at 298 U.S. 415 (1936) as controlling of the situation, termed questionable[18] we need not question those cases because an analysis of the present one shows how markedly different it is from the past cases on overclaiming.

[18] "After Black Rock: New Tests of Patentability — The Old Tests of Invention," 39 Geo. Wash. L. Rev. 123, footnote 66 at pp. 132-33, (Supp. A. 115-16).

As previously mentioned the present case is not analogous to the *Lincoln*, *Bassick*, or *Rogers* cases because there is no charge of contributory infringement against one making, using or selling an old element which was merely adapted to be used with a new claimed element. Instead, Ag Pro is seeking to halt the activities of one who directly infringed by making and selling structures which included every element of claims 1 and 3. Further, Sakraida could have taken a license under the patent on the same reasonable basis as available to anyone (A. 62).

Another distinguishing feature is that in the present case, the patent claims include only those elements necessary to define an operative system which will produce the desired result of rapidly removing waste products from a dairy barn floor. Each of the elements recited in the claims is necessary to define an operative system which will produce the desired cleansing of all floor areas in the barn. Although the floor washing means may be the crucial element in the combination it was necessary to claim it in combination with the other old elements to produce the desired result. There is no single novel element in Gribble and Bennett which could be claimed separate from the other elements. This is a true combination because the operative invention exists only when all the claimed elements are brought together. That is the fundamental difference between the patent in suit and the patents involved in the *Lincoln*, *Bassick* and *Rogers* cases.

Having recognized that the invention resided in a novel combination of old elements, it was necessary for

the inventors to include in the claims all of the elements necessary to produce the new and different result. Unless the invention had been claimed as it was, the patent would have been subject to attack for failing to define an operative system.

At least as early as *Gill* v. *Wells*, 89 U.S. (22 Wall) 1, 25-26 (1874) the Court said that it was "of the greatest importance," particularly in patents made up of combinations of old elements, that the claims and description be full, clear, concise and exact. Again in *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938) the same thing was emphasized. That requirement is codified today in 35 U.S.C. § 112 which states, in part:

> "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

Had the Gribble and Bennett patent recited fewer elements, it would have been open to the attack of reciting insufficient elements to define an operative combination, and/or to the attack that the invention was claimed too broadly. A review of the claims of the patent shows that they meet the statutory requirement of fully, clearly, concisely and exactly defining the invention. All the recited elements are necessary to the definition of the inventive combination.

The recitation of additional elements in a claim does not broaden the protection granted to the patentee, but instead narrows the scope of protection.

Since an infringement occurs only if an alleged infringing product includes all of the claimed elements, it is in the interest of the patentee to obtain claims which include the fewest possible elements. That was specifically recognized in *Williams Mfg. Co.* v. *United Shoe Mach. Corp.*, 316 U.S. 364 (1942). Also, the distinguishing features of the *Bassick* and *Lincoln* cases, regarding contributory infringement discussed above, were recognized by the Court in *Williams* (316 U.S. at 368-370).

Sakraida's brief refers to the *A & P* case as supporting the charge of overclaiming (Pet. Br. 48). The Court in *A & P* only mentioned overclaiming in passing (340 U.S. at 150), and as a basis for its statement cited the *Bassick* case rather than the *Lincoln* case. It is noteworthy that in the same passage in *A & P* discussing overclaiming, the Court said that there would not be overclaiming if the old elements were combined to produce a new combination (340 U.S. at 150).

The overclaiming defense has no merit because the Gribble and Bennett claims include only those elements necessary to define an operative structure which produces the desired novel result, and there is no attempt to extend the patent coverage by charging contributory infringement against one who merely makes an old element of the patented combination.

Sakraida's Allegedly Newly Discovered Evidence

1. The district court did not have jurisdiction to hear the motion for new trial based on newly discovered evidence

Sakraida's motion for a new trial was made pursuant to Rule 60(b)(2) F.R.Civ.P. which requires that a motion for a new trial based on newly discovered evidence must be made "not more than one year after the judgment, order or proceeding was entered or taken" (Supp. A. 1).

On September 23, 1971, the district court entered a final judgment holding the Gribble and Bennett patent invalid (A. 55). Ag Pro appealed that judgment and on February 5, 1973 the Court of Appeals handed down its opinion reversing the district court, held the patent valid, and remanded for a determination of the issue of infringement, 474 F.2d 167. On February 17, 1973, Sakraida filed a petition for rehearing in the Court of Appeals, one of the grounds of which was "discovery of new evidence since the date of the entry of the trial court's judgment." On June 25, 1973, the Court of Appeals granted the petition for rehearing to the extent of treating it as the "substantial equivalent of a motion under Rule 60(b)(2) F. R. Civ. P." and remanded to the district court for consideration of a motion under that rule to be filed by Sakraida, 481 F.2d 668. On July 27, 1973, Sakraida filed his motion in the district court for a new trial pursuant to Rule 60(b)(2), (A. 120).

Sakraida, therefore, moved under Rule 60(b)(2)

twenty-two months after entry of the final judgment of the district court. Although Sakraida moved under Rule 60(b)(2) within one year from the date of the opinion of the Court of Appeals upholding validity of the patent (February 5, 1973), Ag Pro contends that the language of Rule 60(b)(2) "a final judgment, order or proceeding" means only in a district court and not in an appellate court.

The full title of the controlling rules is "Federal Rules of Civil Procedure for the United States District Courts." Rule 1, "Scope of Rules" expressly states that "These rules govern the procedure in the United States district courts in all suits of a civil nature. . . ." (Supp. A. 1).

A motion for new trial under Rule 60(b)(2) is contrary to the finality of judgments and is not one of those motions which is generally looked upon favorably. Because the rule is contrary to the finality of a judgment it should be strictly construed, and the requirements of the rule rigorously enforced against one seeking relief thereunder.[19]

As far as we have been able to determine, the jurisdictional question here raised has never been decided by this Court. Two courts of appeals have indicated conflicting opinions on the question, but in neither case were those courts squarely confronted with the question here presented.

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[19] *Strauss* v. *United States*, 337 F.2d 853 (5 Cir. 1964); *Kithcart* v. *Metropolitan Life Ins. Co.*, 119 F.2d 497, 500 (8 Cir. 1941), cert. den. 315 U.S. 808.

In *Corn* v. *Guam Coral Co.*, 318 F.2d 622, 629 (9 Cir. 1963) the court said:

> "The time limit for making a motion under Rule 60(b), as set out in the second sentence of that rule, begins to run upon the entry of 'the judgment, order or proceeding,' referred to in the first sentence. Accordingly, under the federal rule, the maximum period of one year within which such a motion must be filed for reasons (1), (2) and (3) of that rule, begins to run when such *district court* judgment or order was entered, or such *district court* proceeding was taken." (emphasis added).

In *Transit Casualty Company* v. *Security Trust Company*, 441 F.2d 788, 791 (5 Cir. 1971), cert. den. 404 U.S. 883, the court made a contrary interpretation of Rule 60(b)(2), and in support cited *Federal Trade Com.* v. *Minneapolis-Honeywell R. Co.*, 344 U.S. 206 (1952). The *FTC* case does not support the Fifth Circuit decision because it involved the computation of time for a petition for writ of certiorari and not a motion under Rule 60(b)(2). Petitions and appeals to this Court are governed by the "Rules of the Supreme Court of the United States" and not by the Federal Rules. Further, on December 4, 1967, this Court adopted the "Federal Rules of Appellate Procedure" which abrogated the existing rules of civil procedure to remove therefrom all reference to appeals under old rules 72-76. This is additional indication that the present rules of civil procedure are limited to the district courts.

Professor Moore in his treatise supports the propo-

sition that the language of Rule 60(b)(2) refers to ". . . within one year from the entry of the final judgment in the *district court*" (emphasis added).[20]

If Rule 60(b)(2) were not limited to final judgments in the district court, a party could wait to make a motion for new trial until such time as the matter was finally decided by this Court in a manner that changed the substance of the lower courts' judgments, and then make his motion for new trial within a year of the decision of this Court.

For the foregoing reasons this Court is respectfully urged to reconsider the jurisdictional question here raised, and hold that there was no jurisdiction in the district court to hear Sakraida's Rule 60(b)(2) motion.

2. Sakraida failed to meet the requirements for granting a new trial based on newly discovered evidence

The requirements for granting a new trial are:

(1) the evidence must be discovered after the trial;

(2) facts must be alleged from which the court may infer diligence on the part of the movant to discover the new evidence;

(3) the evidence must not be just cumulative or impeaching;

(4) the evidence must be material;

[20] 7 Moore's Federal Practice, 2 Ed., ¶ 60.28[2], p. 400, footnote 37.

(5) the evidence must be such that a new trial would probably produce a new result.[21]

A motion for a new trial based on newly discovered evidence is an extraordinary motion, and in order for a district court to grant such a motion, the moving party must strictly comply with all of the requirements of such a motion.[22]

Because more than ten days had elapsed since the entry of the judgment of the district court, the Court of Appeals in its remand order treated Sakraida's motion as the equivalent of a motion under Rule 60(b)(2) rather than a motion for new trial under Rule 59. Professor Moore in his treatise discusses the relationship between Rules 59 and 60, and points out that the moving party under Rule 60 has the heavier burden than under Rule 59.[23]

If any of the Rule 60(b)(2) requirements set forth above are not met the motion should be denied. Sakraida failed completely to meet the threshold requirements (1) that the evidence must be discovered after the trial and (2) to allege facts from which the court could infer diligence on the part of Sakraida to discover the new evidence. Sakraida's explanation is that the evidence was discovered as a result of a "by chance" meeting between Messrs. Sakraida and Meyer

[21] *Giordano* v. *McCartney*, 385 F.2d 154 (3 Cir. 1967); *Ledet* v. *United States*, 297 F.2d 737, 739 (5 Cir. 1962); *Kithcart* v. *Metropolitan Life Ins. Co.*, 119 F.2d 497, 500 (8 Cir. 1941), cert. den. 315 U.S. 808; *McCullough Tool Company* v. *Wells Surveys, Inc.*, 343 F.2d 381, 410 (10 Cir. 1965), cert. den. 383 U.S. 933.

[22] *Strauss* v. *United States*, supra, at 854.

[23] 7 Moore's, supra, ¶ 60.23[3], [4], pp. 271, 273.

in Florida in January 1973. Sakraida's brief boldly states that the district court's finding of diligence was clearly supported by the evidence (Pet. Br. 51). The "by chance" meeting is not such evidence. All the evidence established that Sakraida displayed a minimum of effort to obtain the new evidence until after the Court of Appeals' decision upholding validity of the patent, 474 F.2d 167. Further, Sakraida's brief fails to cite a single authority which supports grant of a Rule 60(b)(2) motion under circumstances like the present (Pet. Br. 48-52). We shall now examine the "newly discovered evidence" and the circumstances surrounding its acquisition by Sakraida.

3. The "newly discovered evidence" was discovered before trial

The first requirement for granting a Rule 60(b)(2) motion is that the evidence must be discovered after the trial. The principal evidence relied upon by Sakraida is the testimony of Mr. Herbert Meyer concerning the flushing system at the Mission Dairy. Also, most importantly, Mr. Meyer was the key to Sakraida's obtaining the testimony of Messrs. Souza, Rovie and Whitmore (A. 192, 256-57).

It should be remembered that the Mission Dairy, according to Mr. Meyer, was not in operation until October 25, 1963 (A. 253) which is too late to act as a reference against the patent. Gribble and Bennett had been operating a pilot model of the patented in-

vention in 1962 and made the first sale of the patented invention in the Spring of 1963 (A. 60-61).[24]

In October, 1969, about two years before trial, Sakraida and his attorney were in touch with an agricultural expert, Mr. Fairbank, who was cooperating with Sakraida in providing his attorney with information which might invalidate the Gribble and Bennett patent (A. 182-84). In support of Sakraida's motion for summary judgment (A. 25), Mr. Fairbank executed an affidavit on October 13, 1969 (A. 34-36). At the time of preparing that affidavit, Mr. Fairbank was aware of the manure flushing system at the Mission Dairy which he considered to be like the Gribble and Bennett patent. Prior to execution of his affidavit of October 13, 1969, Mr. Fairbank specifically mentioned to Sakraida's attorney the existence of the Mission Dairy and its possible pertinency, which was acknowledged by Sakraida's attorney (A. 142-143, 150-151, 153-154, 171-172).

Mr. Sakraida testified that Mr. Fairbank was his sole source of information concerning possible prior art dairies and that he considered the information

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[24] Ag Pro admits that there was a striking similarity between the Mission Dairy and the Gribble and Bennett pilot model, Sweet's Dairy at Sixes, Oregon. This is not too surprising because the Sweet Dairy at Sixes, Oregon is close to the California border, and had been operated on an experimental basis since 1962. Furthermore, the Ross Holm Company was a common supplier of milking parlor equipment to the Sweet Dairy and to the Mission Dairy. Mr. Meyer said he had a meeting with Mr. Holm in December of 1961 in which he went over the equipment to be installed at the Mission Dairy (A. 252) and in March of 1962, Mr. Meyer testified that he learned from Mr. Holm that the manure flushing system he intended to install at the Mission Dairy was similar to that at the Sweet Dairy (A. 258-59).

from Mr. Fairbank concerning the Mission Dairy to be important (A. 180, 184-185). Sakraida requested his friend Mr. Wisdom to visit the Mission Dairy and find out about its manure flushing system (A. 177). Mr. Wisdom testified that he went to the Mission Dairy, but was denied access by the manager, Mr. Ripley, and that he made no further effort to find out anything about the flushing system at the Mission Dairy even though he was an employee of the Ross Holm Company which had installed equipment at that dairy (A. 196-197).[25]

It is difficult to believe that there was any *bona fide* refusal to permit Mr. Wisdom at least to inspect the manure flushing system at the Mission Dairy. Mr. Wisdom testified that he had previously visited the Mission Dairy, probably in 1965 when it had an open

[25] The testimony of Mr. Sakraida and Mr. Wisdom is that Wisdom's visit to Mission Dairy was in 1971. This is undoubtedly an error. That visit was made either in late 1969 or at the beginning of 1970 because Mr. Sakraida testified that he didn't do anything about getting additional information concerning the Mission Dairy after Mr. Wisdom told him that he had been denied access because "In the meantime we [Sakraida] had this summary judgment" in his favor (A. 188). At the hearing on summary judgment before the district court on December 22, 1969, the court indicated that it would grant the motion, which had been argued by Ag Pro's local counsel in El Paso. At his request the court did not finally grant the motion but agreed to an additional hearing which was attended by Ag Pro's trial counsel on February 11, 1970 and the motion for summary judgment was granted on February 19, 1970 (A. 3). Therefore, when Mr. Sakraida testified that he had a summary judgment in his favor "in the meantime" it must have been around the end of 1969 or beginning of 1970 that Mr. Wisdom visited the Mission Dairy. That is the logical time that Mr. Wisdom would have gone to the Mission Dairy because Mr. Fairbank testified that he told Mr. Sakriada and his attorney about the dairy in October 1969.

house, but that he didn't recall anything about an automatic flushing system (A. 198-199). Mr. Fairbank frequently visited the Mission Dairy in the mid-1960's (A. 172). He was never refused admission to the dairy and the dairy was operated as a show place which proudly displayed any innovations it had (A. 144-145). The owner of the Mission Dairy, Mr. Meyer, testified that the dairy was always open for anyone to inspect and that the only restriction that he placed on the manager, Mr. Ripley, was not to discuss dates in connection with the operation (A. 262).

The evidence clearly established that Sakraida and his attorney knew of the Mission Dairy prior to trial and it was not discovered after trial. The Mission Dairy, Mr. Meyer and all the other "new evidence" were available to Sakraida prior to trial.

4. Sakraida failed to establish any facts from which the court could infer diligence

The second requirement for granting a new trial pursuant to Rule 60(b)(2) is that the moving party has the burden of establishing facts from which the court may infer diligence on his part in discovering the new evidence. Not only is the record bare of any such facts, but the actions of Sakraida and his attorney establish the opposite of diligence. It was not until after the Court of Appeals reversed the judgment of the district court and upheld validity of the Gribble and Bennett patent (474 F.2d 167) that Sakraida did anything about trying to establish the evidence which is now claimed to be "newly discovered."

Sakraida then obtained the quick and complete cooperation of Mr. Meyer who was not only the source of the information concerning his Mission Dairy, but also concerning the alleged Souza, Rovie and Whitmore installations.

The district court's order of February 7, 1974 states that Sakraida ". . . did in fact exercise the due diligence required under Rule 60(b)(2) . . . and that such evidence was not available to the defendant in spite of the diligence exercised during the initial discovery of this cause" (A. 175). Not only is there a complete absence of any evidence to support this finding but it is contrary to all the evidence that was before the court. Sakraida and his attorney had been alerted by Mr. Fairbank during the initial discovery phase of the case as to the pertinency of the manure flushing system at the Mission Dairy. All that they did was to ask a friend in the vicinity of the Mission Dairy to stop by and check it out. When he reported that the manager of the dairy had refused him entry, Sakraida and his attorney dropped the matter. Even if there was a *bona fide* refusal of access, there were any number of things Sakraida could have done to obtain all of the information that he needed concerning the Mission Dairy, not the least of which was to take the deposition of the owner of the dairy, Mr. Meyer. There was an intervening period of almost two years between October, 1969 and trial in September, 1971 during which all of the "newly discovered evidence" could have been established. In this connection it should be kept in mind that in 1974, Mr. Meyer vol-

untarily came to El Paso, Texas to testify concerning the construction of his dairy and said that as a result of his research in 1961 and 1962 he had all the information concerning the alleged flushing systems of Rovie, Souza and Whitmore (A. 247-251).

The reason that Sakraida exercised no diligence prior to the trial was because he determined that he didn't need the "newly discovered evidence" to win in the district court. Sakraida deliberately chose not to bring that evidence before the court until after his previously submitted evidence was found to be inadequate.

Sakraida's actions in failing to offer the "newly discovered evidence" at the trial in 1971 is contrary to Rule 60(b)(2) and the controlling law.[26]

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[26] In *Philippine National Bank* v. *Kennedy*, 295 F.2d 544, 545 (D.C. Cir. 1961), the court said that a motion under Rule 60(b)(2) should be denied where a party fails to sustain his burden of showing "that the evidence was not and could not by due diligence have been discovered in time to produce it at trial."

Krock v. *Electric Motor & Repair Company*, 339 F.2d 73, 74 (1 Cir. 1964) held that a motion under Rule 60(b)(2) should be denied for lack of diligence where a party failed to avail himself of the discovery procedures to establish before trial evidence which is now claimed to be newly discovered.

In *Greenspahn* v. *Joseph E. Seagram & Sons*, 186 F.2d 616, 619 (2 Cir. 1951), the court said that where facts are in the possession of a party that should lead him to investigate in order to turn up evidence, failure by him to investigate is the opposite of due diligence.

Even where the later offered testimony of a witness might contradict the proof at a trial and establish fraud, a party's knowledge of the existence of that witness and his failure to call him as a witness or to take his deposition shows lack of diligence and a motion for a new trial should be denied. *Stiers* v. *Martin*, 277 F.2d 737 (4 Cir. 1960)

Even if Sakraida's "newly discovered evidence" completely anticipated the Gribble and Bennett patent, it was improperly received in evidence by the district court. Sakraida never crossed the threshold of establishing that it was in fact newly discovered and that it could not have been discovered by due diligence. At the commencement of the hearing on February 6, 1974 Ag Pro's counsel requested the court first to go into the question of whether Sakraida should be given the opportunity of putting on the newly discovered evidence. The court decided to receive all of Sakraida's evidence and then rule on it. The following took place, (Supp. A. 8-9):

"THE COURT:

Okay. That's your answer. Reserving the right for them to look at the memorandum, you may proceed now to put on your newly discovered - -

MR. KOLISCH:

Your Honor, would you hear us first on the question as to whether or not they should be given the opportunity to put on the newly discovered evidence; they should be - -

THE COURT:

If I understand the Fifth Circuit's direction to me, that's why we are here.

MR. KOLISCH:

As I understand the Fifth Circuit's direction was to hear whether or not there should be a hearing on the so-called newly discovered evidence.

THE COURT:

Well, wouldn't it be just as easy or quick to hear the whole matter now and I'll rule on all of it at the conclusion of the evidence."

Counsel insisted that before getting to the evidence, Sakraida had to establish that it was in fact newly discovered. The court said that the burden was on Sakraida to prove that the evidence was newly discovered and that he could proceed (Supp. A. 8-10).

It is established in patent cases that even where there is an anticipating prior patent which a defendant didn't know about but could have found by a diligent search of the records in the Patent Office, a motion to consider the newly discovered reference pursuant to Rule 60(b)(2) should be denied. In *Valmont Industries, Inc.* v. *Enresco, Inc.*, 446 F.2d 1193 (10 Cir. 1971), cert. den. 405 U.S. 922, plaintiff had prevailed in a patent infringement suit in the district court. While the case was on appeal, the parties entered into a settlement agreement whereby defendant was to make payments to plaintiff over a two-year period and the appeal was dismissed. A few months after the settlement, defendant discovered a German patent that invalidated plaintiff's patent and defendant then moved pursuant to Rule 60(b)(2) for a new trial based on newly discovered evidence. There was no question as to the invalidating effect of the German patent, and that the existence of the patent was unknown to defendant until after the settlement. The motion was denied on the sole ground that defendant failed to show that its failure to discover the new evidence prior to trial was not due to its lack of diligence. The Court said that a diligent patent search would have turned up the German patent and even though defendant had made a search of the Patent Of-

fice records prior to trial, his failure to find the patent showed lack of due diligence.[27]

It was certainly far easier and would have required much less diligence on the part of Sakraida to have obtained full information concerning all of the now alleged prior art via the Mission Dairy, about which he and his attorney had been aware since 1969, than it was for the defendant in the *Valmont* case to locate a foreign patent, of which he was unaware, among the twenty million technical documents on file in the United States Patent Office.[28]

5. The evidence concerning the Mission Dairy would not change the outcome of the case

Accepting Mr. Meyer's testimony that the Mission Dairy with the automatic manure flush system was completed and began operation on October 25, 1963, it was too late to invalidate the Gribble and Bennett patent. The Gribble and Bennett patent application was filed in the Patent Office on November 5, 1963, but the uncontradicted testimony is that in 1962, Gribble and Bennett had an experimental model of their invention at the Sweet Dairy and the first sale of the patented system was in the Spring of 1963 to Pineyhill — West Dairy (A. 60-61).

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[27] See also *Hemphill Company* v. *Holeproof Hosiery Company*, 143 F. Supp. 727, 732 (D.C. N.D. Ga. 1956).

[28] C. Marshall Dann, Commissioner of Patents and Trademarks speech before Wichita Manufacturers Association, reported 254 BNA's Patent, Trademark and Copyright Journal 15, 16 (Nov. 20, 1975).

It has long been the law that where a prior use is relied upon to anticipate a patent, the effective date of the prior use is when it was completed and fully operated in this country.[29]

The Mission Dairy fails to qualify under either subparagraphs (a) or (b) of 35 U.S.C. § 102 (Supp. A. 2-3) because it was not "known or used" before the date of the Gribble and Bennett invention nor was it "in public use or on sale in this country, more than one year prior to the date of the [Gribble and Bennett] application."

It is well established that an invention is not "known", "used", or "made" until it has been reduced to practice, which means that it must have been completely constructed, successfully operated and publicly known or used by others.[30]

The uncontradicted testimony is that the Gribble and Bennett invention was completed no later than early 1963, at least by the time of the sale of Pineyhill — West Dairy in the Spring of 1963 (A. 61), and that the Mission Dairy was not completed and operating until the end of October, 1963 (A. 253). The Mission Dairy is, therefore, not prior art as against the Gribble and Bennett patent.

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[29] *Coffin* v. *Ogden*, 85 U.S. (18 Wall) 821, 823 (1874).

[30] *Corona Cord Tire Co.* v. *Dovan Chemical Corp.*, 276 U.S. 358, 383 (1928); *Stearns* v. *Tinker & Rasor*, 220 F.2d 49, 56 (9 Cir. 1955), cert. den. 350 U.S. 830; *Stamicarbon, N.V.* v. *Escambia Chemical Corporation*, 300 F. Supp. 1209, 1216, (D.C.N.D. Fla. 1969), affd. 430 F.2d 920, cert. den. 400 U.S. 944.

6. The "newly discovered evidence" was improperly received in evidence

After the Court of Appeals' remand to the district court to hold a hearing on Sakraida's Rule 60(b)(2) motion, Ag Pro filed and served on August 23, 1973 (A. 5) a motion to produce pursuant to Rule 34 F.R. Civ.P. which *inter alia* requested:

> "3. All documentary evidence purportedly disclosing prior art pertinent to United States Letters Patent 3,223,070." (Supp. A. 6)

Sakraida refused for no valid reason to produce any of the requested documents. This refusal was upheld by Judge Guinn in an order dated December 7, 1973 (A. 5). After Judge Guinn recused himself and assigned the case to Judge John H. Wood, Jr., Ag Pro renewed its motion to produce pursuant to Rule 34 on December 18, 1973 (A. 6). Having heard nothing from the court by January 14, 1974 with respect to the renewed motion to produce and the case having been set down for hearing on February 6, 1974, Ag Pro's counsel wrote to Judge Wood requesting him to grant the motion and to order that the documents be made available to counsel at least two weeks prior to the forthcoming hearing on Sakraida's motion for a new trial. No response was received to counsel's letter of January 14, 1974 and at the commencement of the hearing on February 6, 1974, Ag Pro renewed its motion to produce which was denied and the court proceeded to receive in evidence all of Sakraida's "newly discovered evidence" (A. 6; Supp. A. 7-8).

It was fundamental and prejudicial error for the

district court to permit Sakraida to put in the "newly discovered evidence" without first making Sakraida satisfy the requirements of Rule 60(b)(2) that the evidence was (1) newly discovered, and (2) could not have been discovered prior to trial by the exercise of due diligence. Had the district court followed the procedure required under Rule 60(b)(2) it would have rejected the evidence and denied Sakraida's motion. Further, prejudicial error was committed against Ag Pro when it sought to put in rebuttal evidence. The Court informed Ag Pro's counsel that the evidence had been closed the previous day, which was contrary to counsel's understanding, and the court thereupon ruled in favor of Sakraida on the motion and the merits of the patent (A. 266-268).

There is an additional reason for rejecting all of the documents received in evidence in support of the "newly discovered evidence," and all of the testimony of Messrs. Rovie and Whitmore. Sakraida failed to give Ag Pro the thirty day notice concerning the "title, date, and page numbers of any publication to be relied upon as anticipation of the patent . . . [and the] name and address of any person who may be relied upon as the prior inventor or as having prior knowledge of or as having previously used or offered for sale the invention or the patent in suit. In the absence of such notice proof of the said matters may not be made at the trial except on such terms as the court requires", 35 U.S.C. § 282, (Supp. A. 4-5). Counsel for Ag Pro unsuccessfully objected to receipt of such evidence (A. 214):

"Yes, Your Honor. Apparently this is being offered as some kind of prior art. They — We are entitled to 30 days' notice under the statutes, 35 [U.S.C.] 284, and this is the first time that the address of this individual —"

The objection was repeated with respect to each of Sakraida's witnesses (A. 216, 217, 233), but the evidence was received and no terms were ever required from Sakraida. The error in receiving this evidence was further compounded by the court repeatedly stating that it was not going to pass on the merits of the patent (A. 215, 217, 245) and then passing on the merits without even giving Ag Pro an opportunity to rebut the improperly received evidence (A. 266-268).

Sakraida's failure to give Ag Pro the required statutory notice concerning its alleged anticipating evidence was deliberate and not an oversight. As previously discussed, prior to the hearing on the motion for new trial Sakraida successfully resisted Ag Pro's motion to produce the documents now relied upon as allegedly anticipating the Gribble and Bennett patent.

Finally, if Sakraida's "newly discovered evidence" has any probative value against the Gribble and Bennett patent, it is available for anyone, except Sakraida to use. It would do particular violence to the rule concerning finality of judgments to permit Sakraida to set aside a final judgment when he had knowledge of the evidence now principally relied upon for more than five years and deliberately chose not to bring it to the court's attention until he lost the case in the Court of Appeals. Anyone who is not bound by the

judgment in this case may use the "newly discovered evidence" for whatever it is worth.

Amicus Brief of Texas Farmers Union is Basically Unsound

The tone of The Texas Farmers Union brief sounds like the special pleading of someone more angered at the Patent Office and the patent system[31] than genuinely concerned with any of the issues in this case. That observation is reinforced by the brief's display of ignorance concerning at least two important and uncontradicted facts in this case, the license fee charged by Ag Pro and the date on which the Mission Dairy was completed and operating.

The Texas brief argues that it should be received and considered because the farmers should not be subjected to the ". . . expensive toll of this patent of obviously minimal technical merit. . . ." (Texas Br. 2). The patent in suit has never and will never exact any expensive toll from farmers. A modest one payment license fee from anyone wishing to practice the invention is all that Ag Pro has ever received for use of the patented invention (A. 62). That was noted by the Court of Appeals in its opinion, 474 F.2d at 169. Such payment is more than recovered within a brief period of time by users of the invention because of the tremendous savings in time, labor and equipment plus the vastly improved sanitary conditions in the barns of users of the invention.

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[31] We note the self citation as authority concerning those matters by the author of the brief (Texas Br. 7, fn. 5).

Another significant factual error in the brief of The Texas Farmers Union appears at page 27 under the argument that the Fifth Circuit improperly enforced Rule 60(b)(2) against Sakraida. The Texas brief states at page 27:

> "The petition also raises the propriety of the Fifth Circuit's reversal (Pet. 1a-6a) of the district court's grant of a new trial under Rule 60(b)(2) for consideration of alleged newly discovered evidence as to the existence at Mission Dairy in Carmel [sic, Gonzales], California, *more than one year before the filing of the Gribble and Bennett patent application*, of an identical dairy barn assemblage to that covered by the patent claims." (emphasis added)

The uncontradicted testimony is that the Mission Dairy was not in existence more than one year prior to the filing date of the Gribble and Bennett patent application. Mission Dairy did not come into existence until at least six months after the invention date of Gribble and Bennett.

The Texas brief argues (p. 28 et seq) that because of the toll on the public that would result from upholding validity of the patent, the district judge was free to interpret Rule 60(b) so as to receive in evidence the "newly discovered evidence" and invalidate the patent on it although that evidence clearly didn't meet the requirements of the rule. In the first place, as above mentioned, there has not and never will be any toll exacted from the public by the Gribble and Bennett patent. But more fundamentally we have never heard it argued, and the Texas brief fails to

cite a single authority in support of its novel proposition, that a federal rule of civil procedure is subject to varying interpretations and enforcement depending upon the type of case[32] and what a particular judge believes the effect on the public will be. According to this argument if the judge thinks the "outcome would have no consequential direct effect upon other members of the public," (p. 28) he should exclude evidence which is clearly not newly discovered. However, if the judge believes differently as to the effect on the public he should receive that evidence. Of course each federal judge may have a different idea as to the effect on the public of a particular patent and the Supreme Court will ultimately have to resolve in each case what the public effect of a patent will be to determine how to interpret a Rule 60(b) situation.

It follows from the argument in the Texas brief that any of the Federal Rules of Civil Procedure could be subjected to a different interpretation in patent litigation from other litigation.[33] We can hardly think of a more chaotic, unsatisfactory and possibly unconstitutional way of interpreting the Rules.

The public interest in patents which motivated this Court in such cases as *Motion Picture Patents*,[34] *Ma-*

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[32] Rule 1 F.R.Civ.P. provides that the rules govern the procedure in the district courts "in all suits of a civil nature."

[33] The courts have uniformly held that the Federal Rules of Civil Procedure such as Rule 52(a), are applied in patent cases in the same manner as they are in any other type of civil litigation, *Armour & Co.* v. *Wilson & Co.*, 274 F.2d 143, 156 (7 Cir. 1960).

[34] *Motion Picture Patents Co.* v. *Universal Film Mfg. Co.*, 243 U.S. 502 (1917).

sonite,[35] *Mercoid*,[36] *Lear*,[37] and *Blonder-Tongue*[38] to enunciate certain doctrines which placed limitations on patent holders who sought to abuse or otherwise improperly extend their patents is completely inapplicable to the present case. The Gribble and Bennett patent has never been used or enforced in a manner which could be considered inimical to the public interest. To the contrary the patent has always made available to all, for a single modest payment, a system that materially lowers the cost of producing milk and greatly assists in the control of pollution and the maintenance of sanitary conditions.

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[35] *United States* v. *Masonite Corp.*, 316 U.S. 265 (1942).
[36] *Mercoid Corp.* v. *Mid-Continent Invest. Co.*, 320 U.S. 661 (1944).
[37] *Lear* v. *Adkins*, 395 U.S. 653 (1969).
[38] *Blonder-Tongue Labs.* v. *University Foundation*, 402 U.S. 313 (1971).

CONCLUSION

The Gribble and Bennett patent added to our knowledge and produced a major advance in the dairy industry. It meets the basic constitutional test of promoting "the Progress of Science and useful Arts." It is a true combination patent which meets every statutory and decisional test of invention set forth by this Court. The patented combination provided a simple, inexpensive solution to an age old problem. The patent has been available to all members of the public on a most reasonable basis. The inventors were deservedly and properly issued a patent.

The decision of the Court of Appeals should be affirmed.

Respectfully submitted,

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Portland, Oregon
December 31, 1975

Supreme Court, U. S.
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IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,
Petitioner,

versus

AG PRO, INC.,
Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

REPLY BRIEF FOR PETITIONER

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REPLY BRIEF FOR PETITIONER

To the Honorable Justices of the Supreme Court of the United States:

This Reply Brief is in two parts—one of which deals with certain erroneous implications of Respondent's Brief and the other of which answers the erroneous legal contentions raised in the Amicus Curiae Brief of the Bar Association of the District of Columbia (hereinafter "D.C. Bar Brief").

REPLY TO RESPONDENT'S BRIEF

Respondent contends that Petitioner "combined" his evidence of prior art and evidence of the level of skill of an ordinary person in the art together in his Brief, to imply that the evidence "had all been before the trial court at the time of the trial on the merits" (i.e. September 13, 1971 before Judge Guinn) (Respondent's Brief 3). Respondent contends there was absolutely "no evidence" (a) to support Judge Guinn's finding that "Dairy Establishment" was not novel, and did not meet the test of nonobviousness, or (b) Judge Wood's finding that Petitioner exercised due diligence in discovering Herb Meyer's flush operation at Mission Dairy. Respondent also contends that the water flush concept that Herb Meyer implemented at the Mission Dairy is irrelevant to a determination of the validity of "Dairy Establishment" because the beginning of milking operations at Mission Dairy did not predate the Gribble and Bennett invention, and, therefore, Mission Dairy cannot be considered as "prior art".

Petitioner rejects any inference of confusing the evidence before J. Guinn and the evidence before Judge Wood. Moreover, evidence sufficient to disqualify the claimed subject matter from patentability was before the Patent Office which failed to apply a proper legal test in its assessment of Respondent's "Dairy Establishment" in the context of the relevant prior art background.

Judge Guinn Found "Dairy Establishment" Lacked Novelty And Held It To Be Obvious

Judge Guinn specifically referred to the prior art patents of McCornack (Supp. A. 55-74), Holz [Sic Hoeiz] (Supp. A. 97-100), Ingraham (Supp. A. 84-87), Kreutzer (Supp. A. 27-44, 45-54), Bogert (Supp. A. 75-83), Luks (Supp. A. 18-26), and the statements of the patent examiner's opinion in initially refusing to issue a patent (Petitioner's Brief, p. 13-15). He used them as a basis for his opinion that "Dairy Establishment" was not a valid patent because the concept lacked novelty, and the small differences from the prior art were within the level of ordinary skill—hence obvious under 35 U.S.C. § 103 as a matter of law. (Findings of Fact 4, 5, and 6; A. 51-2).

Judge Guinn concluded in part by stating, to-wit:

> "All that the Plaintiff has done is to construct several elements known in the prior art in a sequence known in a dairy barn. This may be relevant to commercial success, but not to invention." (A. 53).

The Fifth Circuit (474 F.2d 167) repudiated these findings of Judge Guinn, to state in part, to-wit:

> "None of the prior art references proffered by defendant in this case, independently or combined, suggest that plaintiff's novel flooding mechanism was an obvious advancement in the art." (Petition, p. 17a).

This Fifth Circuit summation of the prior art patents of record before Judge Guinn on September 13, 1971, is erroneous. Petitioner need cite only a portion of the specifications appearing in the McCornack patent (Exhibit 7, A. 95), and the Bogert patent (Exhibit 8, A. 96) to demonstrate dispositively that the Fifth Circuit erred in saying that "none of the prior art references . . . suggest that plaintiff's novel flooding mechanism was an obvious advancement in the art" (Petition, p. 17a).

Respondent admits all elements of this combination patent are old, and the only question is, does the positioning of a water tank at the upper end of the dairy barn floor, with a simple drop gate in one side of the tank as a means of releasing the water, constitute an invention, or promote the Progress of Science and useful

Arts. The evidence before J. Guinn showed the use of collected waters to flow down a barn floor and, by a flushing action, clean it, was not new or novel, and did not meet the test of nonobviousness.

Not only did the affidavits of W. C. Fairbank and Archie C. Sharp (A. 34, 41) relate to the collection of water in a pool, i.e., in a canal, ditch or stream by use of a weir, and directing the flow of water thus accumulated down the barn floor at dairies at Weed, Lodi and Bishop, in California, but the McCornack and Bogert patents, which were before J. Guinn, each covered a system of collecting water at the floor level, and a means of releasing it suddenly onto the barn floor so that, by gravity, a quantity of water flushed the manure off the floor and into a receptacle or outlet for it.

McCornack's patent, entitled "Dairy Plant", has as one of its comprehensive objects the idea "to save labor" (both as to the milking and removal of manure operation), and "for disposing of the manure and utilizing the valuable constituents thereof" (Supp. A. 67). McCornack states in his specifications that "Dairy Plant" uses water pipes so arranged that they discharge water against and "flush" the surfaces of the sanitary shields *and* also "flush" the milking benches and gutters (Supp. A. 68, Column 1, Lines 22-31). The term "flush" as defined by Webster, means to wash out, or discharge with a sudden, rapid flow of water, to flow suddenly, or to flood. In McCornack, each individual shield could be flushed separately, but preferably the shields are flushed simultaneously by means of a "common valve." It was also provided that the cow lanes, and their manure gutters were sprayed and flushed from lateral pipes in the same way (Supp. A. 68, Column 1, Lines 26-31). By a system of "flushing" the stables, the milking room, and the cow lanes, both the solid and liquid values of the manure are carried into a catch basin (Supp. A. 68, Column 2, Lines 47-54).

McCornack is to the effect that sanitary conditions could be maintained and accomplished (with ease and certainty) because of a water main located under the stalls controlled by a "valve" operated with a foot pedal for convenient operation by an operator. Water flowing from the pipe "flushed" off the *surface* and carried all refuse into a "gutter" from which it flowed "by gravity" to a suitable outlet. Figures 23, 24, and 25 show the complete layout of such a "Dairy Plant" which encompassed the manure drainage system (Supp. A. 72, Column 1, Lines 39-69). The description in the patent states that all of the *surfaces and gutters* drained towards the lanes at the front of the stables which are also suitably guttered and provided with water pipes if necessary so that all the manure may be "flushed", *with or without the aid of brooms*, towards the front of the stable (Supp. A 72, Column 2, Lines 55-61).

McCornack specifically states that "all of these areas and passageways" are "flushed with wash water" which carries or assists in carrying all of the manure, both solid and liquid, into the storage basin (Supp. A. 73, Column 1, Lines 1-3). In Claim 10, McCornack states that not only the sanitary shields, but also the "floor" of the stalls are "flushed" clean [1] of manure (Supp. A. 74 Column 2, Lines 14-16).

Bogert's patent, which in part is titled "Apparatus for Cleaning" barns and stables (Supp. A. 78), teaches the idea of providing the "means" for automatically cleaning the manure and urine gutter at the rear of the stalls by progressive action of a fluid cleaning medium (Supp. A. 78, Column 1, Lines 1-5). It should be noted

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[1] When referring to the physical appearance of the finished result following the flushing operation, Petitioner assumes that Respondent's choice of the adjective "immaculate" (Respondent's Brief, p. 15, 25) is simply sales puffing and not a representation or warranty.

that the Bogert barn design positions the cows in such a manner that manure falls into a "gutter" that runs the length of the row of stalls, as opposed to a situation where the manure falls directly on the *floor* of the barn. Therefore, the gutter is flushed or flooded to remove manure, as opposed to flushing the floor as is done in "Dairy Establishment."

Figure 3 depicts the "fluid cleaning medium supply tank" (Supp. A. 78, Column 1, Lines 17-19). It is submitted that in substance a "fluid cleaning medium supply tank" is the same *means* as a storage tank, or water tank, that can be used to house or dam water as referred to in "Dairy Establishment." The tank collects water in a "pool", just as recited in Respondent's patent. Bogert specifies that the floors or bottoms of the gutters are inclined downward to the left so that the liquified or semiliquified matter will pass by gravity from the ends of the gutters into a common reservoir, or tank, where it may be stored for future use (Supp. A. 78, Column 2, Lines 21-7). In order to remove the manure, Bogert taught the idea of releasing a "predetermined amount" of water at various points throughout the length of the gutter at different velocities (Supp. A. 78, Column 2, Lines 35-6). Bogert also uses the term "flush" as descriptive of his idea of removing manure from the inside of a gutter (Supp. A. 78, Column 2, Line 39).[2]

Bogert further discloses a "cap valve" which can be pivoted on its hinge located on the bottom of the "fluid cleaning medium supply tank", which valve is lifted upward to release the water (Supp. A. 79, Column 1, Lines 53-6). The flushing action is described by Bogert in his specification as follows, to-wit:

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[2] In Footnote 2 (Petition, p. 15a), the Fifth Circuit refers to Mr. Huber's scrutinization of the prior art references, and specifically with respect to the Bogert patent, advances the contention that the patent utilizes "a sprinkler system."

> ". . . upon opening the cap valve the volume of water in the reservoir passing through the passage into the chamber will tend to force the water through the conduits and their lateral branches with great velocity, thereby entering the gutters with maximum pressure which will move the matter therein toward the outlets . . . after the water has passed over the partitions it will travel through the conduits and branches and flush the gutters." (Supp. A. 79, Column 2, Lines 10-15). See also Column 2, Lines 49-72.

In Claim 1, Bogert refers to a "common gutter" that is opened throughout its length into which the manure would fall. Several outlets enter into the gutter in order to convey a "fluid medium" for flushing the gutter (Supp. A. 80, Column 2). Claim 4 positions the "fluid medium reservoir" *above* and at one end of the walk, for conveying the fluid medium to flush the gutter clean (Supp. A. 81, Column 1). See also Claims 5, 6, 15, 16, and 21.

"Dairy Establishment", *like* McCornack's and Bogert's idea, is an "automatic-hydraulic" device for the removal of waste products from the floor of a dairy barn (Respondent's Brief, p. 5). Each teaches a manually operated device which releases stored water into a gutter, or onto a floor to allow the natural propensity of water to act as a cleaning agent as it flows downhill. Regardless of how water may be released to flow downhill, the "function" of the water in each case is the same, i.e. as a *means* to clean or remove manure from a floor. The fact that the volume of water released on any given time, is larger, or that the water may flow faster because of the slope or length of the floor, affects only the "efficiency" of the result, and is not a change in substance, idea, novelty, or obviousness of the concept that water will clean as the natural result of its force as it flows downhill. To assert that the Gribble and Bennett

idea "taught the use of a controlled volume of water dispersed as a sheet of water", and that this concept was not disclosed by the prior art as shown by the dairies at Weed, Lodi and Bishop, and also as set out in McCornack and Bogert—and even described in Greek mythology—is at variance with the facts.

To quote Mr. Fairbank, on the concept of a "sheet form of water", the record is as follows, to-wit:

> "To use a sheet form is a hell of a poor term. Pardon me, I would not want it on the record, but the sheet form, what is a sheet of water How is that defined? That is—that is one of those unfortunate words.
>
> Well, to me when I turn a fire hose down a floor to hose a floor off, it fans out and makes basically a sheet of—sheet flow of water, or if you have a drop gate 20 feet wide, a drop that—that means a drop more or less level set, so I think it's kind of a rather ambiguous, if not nondescript, term—
>
> . . . could lead to some misunderstanding." (A. 165-6)

Judge Guinn's findings to the effect that the component parts of "Dairy Establishment" are each individually old (this fact has been admitted by Respondent), that they are not novel, and that the combination of them in this patent is not novel was fully supported by the two prior art references set forth above. These findings were not clearly erroneous, and hence the Court of Appeals for the Fifth Circuit was not authorized *to substitute* its judgment for that of Judge Guinn. Rule 52 F.R.C.P. These fact findings, moreover, were fully consistent with those that the Patent Office made based on the *same* prior art references and for that reason, too, the Fifth Circuit should have left them undisturbed. Judge Guinn's *legal* conclusion of obviousness was supported by these fact findings and should have been affirmed.

Patent Office Failed To Apply The Correct Legal Test In Determining Patentability

Petitioner has set forth specifically in his Brief (p. 13-15) the pertinent quotes from each negative opinion rendered by the patent examiner that passed on "Dairy Establishment" *before* the application was finally approved, in order to emphasize that the old and obvious nature of "Dairy Establishment" was clearly revealed by the prior art of record, but an incorrect legal test was applied. Since the basic layout of a Grade A modern dairy barn, the concept of "flushing" either the gutter or floor of a barn to remove urine or manure, the idea that a "flush" is accomplished by releasing a varying amount of water from a stored position, and the utilization of the liquid slurry as a fertilizer, were *each* long known in the prior art and were hence elements freely available to ordinarily skilled mechanics or farmers for routine use, it is relevant to probe the basis on which the Patent Office distinguished the prior art from the concept set forth in "Dairy Establishment."

Appendix G to Petitioner's Brief provides the answer. It shows that the Patent Office, having determined the "scope and content of the prior art" and ascertained the small "differences" between that art and "Dairy Establishment", then failed to assess the "ordinary level of skill in the art" and instead, advised the Respondent to recite those differences in its claims. Thus, the Examiner suggested:

> "A claim such as 19 may be amended to avoid the prior art by including the dump tanks and dam positively and their respective location with the different areas and their cooperation so as to clean the different areas with the wash water and waste being

collected in one tank for a desired purpose. Desired dependent claims may be added to depend from amended Claim 19." (Petitioner's Brief, p. 3a, Appendix G, R. 55).

In other words, the *Patent Office* suggested that *if* the claim were recast to recite any small difference it would be allowed. No effort was made to apply the full legal test of § 103 of obviousness. Had the effort been made, the conclusion is inescapable that common sense dictates that a "dump tank" or "dam" must be located *positively* at the uphill level, or above the floor or gutter upon which water was to be released, and that there is nothing inventive about this.

McCornack, as well as Bogert, housed the stored water in a position that allowed it to flow downhill towards a drain or gutter. Natural law or physics teaches that it is impossible to "flush" water uphill, or to naturally release water to flow into drains that are higher than the point from where the water is released. The fact that the water may "cooperate" with the areas of the floor so as to be efficient as a flush system or with a valve, stopper, weir dam, sluice gate or the like to flow out upon opening thereof, is simply a matter of *ordinary* design or construction, and not a novel or nonobvious change from what had been known before. Implicit in the prior art epitomized by McCornack and Bogert is the fact that the design, shape, contour, and slope of the gutter and conduits is such that they allow the water to "cooperate" with the deposit of manure in order to be an effective or efficient water flush system. Likewise implicit in these typical prior art teachings is the cooperation between liquid, such as water, and any form of stopper that holds it within or releases it from a container.

In short, while the Patent Office correctly determined "the scope and content of the prior art" and "the difference between the prior art and the . . . [alleged *Gribble-Bennett* invention]" as *Graham* v. *John Deere Co.*, 383 U.S. 1, 17 (1966) counsels, it not only failed to resolve "the level of ordinary skill in the pertinent art" (ibid), but advised Respondent to specifically claim the "differences" and issued a patent covering them *even though* they are "exceedingly small and quite non-technical differences in a device [a dairy barn] which was old in the art", *Graham, supra*, 383 U.S. at 36. Indeed, "at the latest, those differences were rendered apparent in . . . [1941] by the appearance of the . . . [Bogert] patent . . ." (ibid).[3]

Nor was attention given in the Patent Office to the circumstances that the rewritten claims recite a mere "conjunction or concert of known elements . . . wanting in any unusual or surprising consequences from the unification of the elements . . ." and that these old elements perform no "additional or different function in the combination than they perform out of it." *Great A & P Tea Co.* vs. *Supermarket Equipment Corp.*, 340 U.S. 147, 152 (1950).[4]

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[3] In this case, analogously to *Calmar* vs. *Cook*, adjudicated with *Graham*, 383 U.S. at 35,

"The problems confronting . . . [Gribble and Bennett and the dairy industry, assuming they may properly be characterized as "problems"] were not . . . [milk or dairy industry] problems; they were mechanical . . . [cleaning] problems."

The sheet of water released in the dairy barn, however dramatic Respondent's movie may suggest its effect there to be, does not differ patentably or conceptually from the Bogert or McCornack teachings, nor is there any functional distinction between that sheet of water and the sheet of water released for cleaning purposes in *any* milieu, such as, e.g., one tips over a pail of water on a raised porch or deck so as to sweep away all refuse in the path of the water as it flows to the surface of the land or water below.

[4] Thus focussing on *Graham's* basic inquiries,

a) the "scope and content of the prior art" shows each element to be old.

[Footnote continued on page 12]

Had either of these imperatives been properly considered and given effect, the Gribble and Bennett patent *a fortiori* COULD NOT have issued. Because the Patent Office thus *failed* to follow the proper *legal* test of patentability under 35 U.S.C. § 103, this patent necessarily has *no* cognizable presumption of validity under 35 U.S.C. § 282.

There Being No Presumption Of Validity, Judge Guinn's Correct Legal Opinion On Summary Judgment Should Have Been Affirmed

Judge Guinn correctly applied *Anderson's Black Rock, Inc.* vs. *Pavement Salvage Company, Inc.*, 396 U.S. 57 (1969) to hold the Gribble and Bennett patent *invalid as a matter of law* under 35 U.S.C. § 103[5] based in part on the "correspondence between the Patent Office and Gribble and Bennett's attorney which was written during the time the patent application was pending" (Pet. 26a) and which reflected the Patent Office fact findings relative, *inter alia*, to the exemplary Bogert and McCornack prior art and showed that an improper legal test was the basis for issuing the patent.

The Fifth Circuit reversal of this correct—and dispositive—holding not only forced an unnecessary, judicially wasteful, trial but opened the door for Respondent's introduction at the trial of irrelevant evidence on "secondary considerations" (Pet. 27a-28a) and hence led to the Fifth Circuit error which is at the heart of this proceeding.

[4] [Continued]

b) the sole "difference" is that the elements are combined, since each performs no different function in the combination than outside it.

c) the "ordinary level of skill in the art" is necessarily capable of thus associating and disassociating old elements; if it were otherwise, patents would be a mechanism for subtracting old knowledge from the public domain and removing resources already freely available to artisans in derogation of the Constitution. See *Graham, supra*, 383 U.S. at 6, and the Texas Farmers Union Brief at 9-17, especially pages 10-12.

[5] Since *Black Rock* reaffirms, reemphasizes and rests upon *Graham, supra*, he necessarily also applied *Graham* in so holding.

Petitioner submits that lower courts *should* be able to dispose summarily of patent validity in instances where, as here, the Patent Office record clearly demonstrates that issuance of the patent resulted from a focal error of law on the part of the Office. The Fifth Circuit holding fosters continued Patent Office errors of law and issuance of further legally invalid patents, to say nothing of unnecessary and inappropriate trials in the lower federal courts.

Judge Wood's Finding That Diligence Was Shown In Discovering Herbert Meyer[6]

The trial court found as a fact "that the names of witnesses and the nature of their testimony was discovered purely by chance by the Defendant [Petitioner here] at a meeting in January of 1973 by [sic with] Mr. Herbert G. Meyer." (A. 175) The Fifth Circuit did not repudiate this finding but inferred from other facts of record that Petitioner could have learned about Mission Dairy *per se* from sources other than Mr. Meyer (Pet. 3a-4a).

Respondent now urges, without any record evidence to support the argument, that this Court should *assume* that Meyer himself and his relationship to Mission Dairy,

[6] Respondent's jurisdictional argument (Respondent's Brief 39-42) was first raised in *this* Court by Motion, which has already been denied. The argument is in any event misplaced. Petitioner's "Motion" as originally brought in the Fifth Circuit was in the form of a Petition for Rehearing rather than a Motion under Rule 60(b)(2). That Petition was granted only as to the newly discovered evidence point, in the exercise of the Appellate Court's "broad authority under 28 U.S.C. § 2106" (Pet. 8a).

neither of which were known to Petitioner before January, 1973, could have been discovered earlier if Petitioner had been diligent. Manifestly Respondent's argument is an exercise in the very "hindsight"—or, as the Fifth Circuit would say, "intuitive analysis distorted by the invention's simplicity and retrospective self-evidence"—that Petitioner is accused of exercising in contending that "Dairy Establishment" is obvious under 35 U.S.C. § 103.

Respondent repeatedly asserts that W. C. Fairbank told Petitioner's counsel in 1969 the Mission Dairy had a flush system like Respondent's. This is based upon Mr. Fairbank's reconstruction of what he thought he should have told Petitioner's counsel, but the written evidence is to the contrary. On October 8, 1969, Mr. Fairbank wrote counsel, with a revised copy of his affidavit, and said, "I can only cite prior use of flowing water across barn floors for the purpose of flushing away manure—*not the use of a tilt bucket or a dam for impounding the water on the floor.*" (emphasis added) (A. 173) And in his affidavit dated October 13, 1969, Par. (i) he referred only to Weed, Lodi and Bishop, California, and made no mention of the Mission Dairy (A. 34, 36).

The Relevancy Of Mission Dairy As Prior Art Or Evidence Of Ordinary Skill In The Art

Preliminarily, Petitioner stresses that the prior art evidence as it stood before the second Fifth Circuit decision (Pet. 9a-22a), of which Bogert and McCornack are exemplary, affords an entirely adequate basis on which to decide this case in his favor *as a matter of law*. The Court should nevertheless recognize that the subsequently presented newly discovered evidence, including that relating to Mission Dairy, is relevant, admissible and cognizable here. Respondent's counsel has

conceded that the "flush system" used at Mission Dairy is substantially the same as what is disclosed by "Dairy Establishment" (A. 267). Respondents contends, however, that Mission Dairy cannot be considered "prior art" because it was not in operation—i.e. milking—before October 25, 1963 (A. 253), and hence was unavailable more than one year before the November 5, 1963, filing date of Gribble's patent application (A. 27). Respondent conveniently ignores Mr. Meyer's testimony that he filed written plans for the Mission Dairy barn including the flush system with the California Soil Conservation Department, a Government agency under the U.S. Department of Agriculture, as early as January, 1962 (A. 252).[7]

But regardless of whether or not the experience of Herbert Meyer, or the Mission Dairy be regarded as "prior art", this evidence as well as the evidence pertaining to Emil Rovey, Frank Souza, and Chester Whitmore (Petitioner's Brief, pp. 16-19), is certainly relevant and material on the question of the level of ordinary skill in the art as of approximately the time the invention was made. See particularly Petitioner's Exhibit B; A. 209-11, 216. *Concrete Appliances Co.* vs. *Gomery*, 269 U.S. 177, 185 (1925), *All States Plastic Mfg. Co., Inc.* vs. *Weekesser Co., Inc.*, 362 F. Supp. 94, 100-101, (N.D. Ill. 1973) aff'd 506 F.2d 465 (7th Cir. 1974), *Custom Paper Products Co.* vs. *Atlantic Paper Box Co.*, 469 F.2d 178, 180 (1st Cir. 1972), *Reeves Brothers, Inc.* vs. *U.S. Laminating Corp.*, 417 F.2d 869, 872 (2nd Cir. 1969), *International Glass Co.* vs. *United States*, 408 F.2d 395, 404 (Ct. Cls. 1969), *Kay Patents Corp.* vs. *Martin Supply Co.*, 202 F.2d

[7] Petitioner understands that such written plans, filed with this agency are available to interested members of the public as soon as they are filed—and stands ready to so prove if this case should, for any reason, be remanded again.

47, 50-51 (4th Cir. 1953), *Potter Instrument Co., Inc.* vs. *ODEC Computer Systems, Inc.*, 370 F. Supp. 198, 204 (D.R.I. 1974); aff'd 499 F.2d 209 (1st Cir. 1974), *Photon, Inc.* vs. *Harris-Intertype Corp.*, 235 F. Supp. 921, 926 (D. Mass. 1964), aff'd per curiam, 349 F.2d 856 (1st Cir. 1965), *Canadian Ingersoll-Rand Co., Ltd.* vs. *Peterson Products of San Mateo, Inc.*, 223 F. Supp. 803, 812-816 (N.D. Cal. 1963); aff'd 350 F.2d 18 (9th Cir. 1965).

REPLY TO AMICUS BRIEF

The Patent Office failure in *this* case to implement proper legal tests of patentability is by no means unusual; similar failures are routine[8] and led this Court in *Graham* to remark on the "notorious difference between the standards applied by the Patent Office and by the courts", 383 U.S. at 18.[9]

If the Patent Office *were* giving effect to proper legal tests of patentability, much of the "confusion"—real or feigned—adverted to in the D. C. Bar Brief *would not*,

[8] See the Brief Amicus Curiae of the Texas Farmers Union at pp. 17-24.

[9] A remark repeated by the Chief Justice, speaking for the Court, in *Kewanee Oil Co.* vs. *Bicron Corp.*, 416 U.S. 470, 488 (1974) and foreshadowed in 1950 by the concurring opinion in *A & P, supra*, which noted that:

> "The Patent Office, like most administrative agencies, has looked with favor on the opportunity which the exercise of discretion affords to expand its own jurisdiction. And so it has placed a host of gadgets under the armour of patents—gadgets that have no place in the constitutional scheme of advancing scientific knowledge. * * * [Citing Examples]
>
> The patent involved in the present case belongs to this list of incredible patents which the Patent Office has spawned. The fact that a patent as flimsy and spurious as this one has to be brought all the way to this Court to be declared invalid dramatically illustrates how far our patent system frequently departs from the constitutional standards which are supposed to govern." 340 U.S. at 156-158.

and could not exist. Because the Patent Office persists in proliferating patents that do not meet this Court's constitutionally mandated patentability standard which "has remained invariable", *Graham, supra*, 383 U.S. at 19, the lower federal courts are increasingly faced with the need to do the job the Patent Office should have done. Being, as this Court put it in *Graham*, "most ill-fitted to discharge the technological duties cast upon . . . [the judiciary] by patent legislation" (383 U.S. at 36) these lower courts sometimes tend to ignore the "*basic* factual inquiries" defined in *Graham*, 383 U.S. at 17, to focus overearly, overlong and overmuch on the *secondary* considerations "which *may* [*but do not always*] have relevancy" (383 U.S. at 17) in patent cases. *That is just what happened in this case.*

If the Patent Office had properly applied *Graham* and *Anderson's Black Rock* v. *Pavement Salvage Co.*, 396 U.S. 57 (1969) or antecedent Supreme Court precedent embodying the same "invariable" *constitutional* patentability standard, the Gribble and Bennett patent would not have issued. In that event, the evidence of "secondary considerations" which first surfaced below and induced error in the second Fifth Circuit Opinion, would not have been amassed. Similarly, *if* the Patent Office had *properly* addressed itself to *all* of the three "basic factual inquiries" requisite to assessing patentability under 35 U.S.C. 103, rather than only two of them, the patent would necessarily have been refused and the Fifth Circuit would never have become involved.

The Patent Office malaise relative to 35 U.S.C. § 103 results in significant part from precisely the same confused, overly semantic and basically illogical thinking that is exemplified in the D. C. Bar Amicus Brief. This is not surprising, since the Patent Office is daily confronted with those same arguments from patent lawyers who include a preponderance of the members of that

Association's Patent, Trademark and Copyright Section, and from its Appellate Court, the Court of Customs and Patent Appeals ("CCPA").[10]

The baseline fallacy of the Amicus Brief—that *Graham* is inconsistent with *Anderson's Black Rock*—finds no support, direct or inferential, in either opinion and is advanced in the hope of inducing this Court to repudiate its own unanimous and manifestly correct conclusions in *Graham* that the patentability standard is constitutionally ordained and "has remained *invariable* in this Court" (383 U.S. at 19). To make the argument, the amicus D. C. Bar resorts to specious distortions of both *Graham* and *Anderson's Black-Rock*—to wit:

(a) It is argued that *Graham*, by endorsing 35 U.S.C. § 103 as consistent with the invariable constitutional patentability standard and hence a proper exercise of Congressional power, implicitly devitalized all preexisting precedent in which patents were invalidated for "no invention" rather than for "obviousness" and that *Black Rock*, by reviving the pre-1952 terminology to declare a patent invalid because the claimed device was "not an

[10] By reason of geography, the amicus District of Columbia patent lawyers presumably earn most of their livelihood from patent practice before the Patent Office and also engage significantly, albeit to a lesser extent, in prosecuting appeals from the Patent Office before the CCPA and litigating review proceedings of Patent Office decisions in the District of Columbia federal courts.

The D.C. Bar Motion for leave to appear as amicus curiae acknowledges a primary concern with "whether it is worthwhile to file a patent application on a new development or whether a large research expenditure should be made in view of the type of patent protection available" (p. 2a) and, hence, implicitly with maintaining the *status quo* to insure continuing wholesale *availability* of patents from the Patent Office. Despite lip service in the Motion (e.g. p. 3a) and Brief (e.g. p. 5-6) to a *concern* for establishing uniformity in the federal circuits on patentability issues, this association's membership may be presumed to have little direct interest in post-issuance litigation *per se* or in the public consequences of overliberality in granting and enforcing patents.

invention" created a conflict. *This argument reduces to a flimsy semantic ploy.*

(b) It is urged that *Black Rock*, by requiring a combination of old elements to achieve a function transcending the sum of the known functions of the individual parts—i.e. to exhibit "synergism"—departed from the three "basic inquiries" which are the key to resolving obviousness under *Graham*, and established a different, special test of patentability for combination claims. *This argument has no substance; Black Rock itself reemphasizes and reiterates the need to focus on the basic inquiries in every case and illustrates how to do this with "combination" type claims.*

(c) It is contended that *Graham* mandated that evidence of "secondary considerations" be received in every case and that *Black Rock* departed from this mandate by holding such evidence irrelevant to the patentability of a non-synergistic combination. *This argument rests on a false premise; Graham held only that secondary consideration evidence "may have relevancy." Graham itself and Black Rock illustrate instances in which such evidence was irrelevant.*

Because it is of primary importance that the Court neither be misled by these fallacious arguments nor underestimate the impact that they have had upon the Patent Office and, apparently, the Fifth Circuit as well,[11] they are considered in detail hereinafter.

[11] As will be apparent from the discussion *infra*, the federal courts of appeals other than the Fifth Circuit are neither dissonant in, nor particularly confused about the application of *Graham* and *Black Rock*. The D.C. Bar is *wrong* in so implying, e.g., Brief at 5-6. The main divergence in patentability standards—a serious one—is now, as it was in 1966, between the Patent Office and the CCPA on one hand, and the federal courts acting largely under the authority of this Court's unvarying pronouncements, on the other. The Fifth Circuit's aberrancies, while serious, are not typical of the opinions of the latter group.

"Invention-No Invention" vs. "Nonobviousness-Obviousness"—A Semantic Game

The Fifth Circuit in this very case correctly observed that:

> "The Supreme Court held in *Graham* v. *John Deere, supra*, 383 U.S. at 19, 86 S. Ct. 684, that 35 U.S.C. § 103, passed in 1952, merely codified pre-existing requirements and did not relax the standard for patentability. As early as 1851, in *Hotchkiss* v. *Greenwood*, 52 U.S. (11 How.) 248, 13 L.Ed. 683, the Supreme Court posited the condition that a patentable invention must evidence more ingenuity and skill than that possessed by an ordinary mechanic acquainted with the business. *That basic standard remains intact. Section 103 simply substitutes the term 'nonobvious' for prior terms such as 'invention' and 'ingenuity' in order to emphasize the objective nature of the test* and avoid the misunderstanding stemming from the controversial phrase 'flash of creative genius' coined in *Cuno Corp.* v. *Automatic Devices Corp.*, 1941, 314 U.S. 84, 62 S. Ct. 37, 86 L.Ed. 58." (Pet. 16a) (Emphasis Added)

In *Graham*, this Court emphasized the correctness and *invariability* of its own constitutionally ordained patentability standard notwithstanding acknowledged contentions "by some of the parties and by several of the amici that the first sentence of § 103 was intended to sweep away judicial precedents and to lower the level of patentability", 383 U.S. at 16.

The Court then specifically reviewed the history of our patent system from the adoption of the Constitution and the first Act of 1790 onward,[12] noted the label " 'invention' as a word of legal art signifying patentable invention", 383 U.S. at 11, as having originated in *Hotchkiss* v. *Greenwood*, 52 U.S. (11 How.) 248 (1850) and stressed that:

> "The Hotchkiss formulation, however, lies not in any label, but in its *functional approach to questions of patentability*. In practice, Hotchkiss has required a comparison between the subject matter of the patent or patent application, and the background skill of the calling. It has been from this comparison that patentability was in each case determined." 383 U.S. at 12; (Emphasis Added)

This same functional approach is essentially repeated in *Graham's* statement of § 103's basic factual inquiries; to-wit, "scope and content of the prior art . . . ; differences between the prior art and the claims at issue; and the level of ordinary skill in the art . . ." 383 U.S. at 18.

After explaining that intervening decisions of this Court were fully consistent, including *Cuno Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84 (1941) which "merely rhetorically restated the requirement that the subject matter sought to be patented must be beyond the skill of the calling", 383 U.S. at 15, n. 7, the *Graham* Court reviewed § 103's immediate legislative history and specifically concluded:

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[12] Notably, Thomas Jefferson, one of the administrators of the first Patent Act, not only postulated a patentability standard strikingly similar to the Court's own invariable standard but in 1791 proposed a statutory defense that "The invention is so unimportant and obvious that it ought not to be the subject of an exclusive right." See the Appendix to D.C. Bar Brief at 3a, where the author, Judge Rich, suggests "This proposal was never enacted." Actually, as is apparent from the Texas Farmers Union Brief at 11-12, *all* of the patent statutes in effect from 1790-1793 and 1836-1952 required that an invention could be patented *only* if "*sufficiently* useful and important" to merit an exclusive grant. This Court recognized the direct relationship between that statute and the "invention" label that grew out of *Hotchkiss, inter alia*, in *Reckendorfer* v. *Faber*, 92 U.S. 347 (1876), which in turn enunciates the same "combination" test implemented in *Black Rock* and *A & P*. See Texas Farmers Union Brief, pp. 12-16.

> "We believe that this legislative history as well as other sources [footnote omitted], shows that the revision was not intended by Congress to change the general level of patentable invention. We conclude that the section was intended merely as a codification of judicial precedents embracing the Hotchkiss condition, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability." 383 U.S. at 17.

In short, *Graham* was careful to hold that Section 103 does *not* repudiate pre-1952 precedent. Any fair reading of its gist is that "nonobviousness" is a *label* just as "invention" is and that *both*, as legal terms of art, have the same meaning in relation to patentability.

It follows that there is *no inconsistency* in *Black Rock's* unanimous holding that "We conclude further that to those skilled in the art the use of the old elements in combination was not an invention by the obvious-non-obvious standard . . ." (396 U.S. at 62-63) or in its various other uses of the term "invention" (396 U.S. at 61, 63).

The D. C. Bar's argument (Brief at 8-12) is purely a semantic game, but its underlying sinister purpose of providing a means for repudiating this Court's relevant pre-1952 decisions has already been accomplished to a significant extent in the Patent Office and the CCPA. See *Rich*, "Change", 2 APLA Q.J. 214 (1974). See also Texas Farmers Union Brief at 17-21.

It is no wonder that chaos and confusion in the patent system are, as a result, on the increase.

The Test For "Combination" Claims Comports With And Is Subservient To *Graham's* Basic Inquiries

Graham's reaffirmation of antecedent case law included specific reaffirmation of *Great A & P Tea Co.* vs. *Supermarket Equipment Corp.*, 340 U.S. 147 (1951), 383 U.S. at 17 and *Cuno*, 383 U.S. at 15, n. 7, and citation with approval of *Lincoln Engineering Co.* vs. *Stewart Warner-Corp.*, 303 U.S. 545 (1938), 383 U.S. at 25. All are "combination" cases. *Graham* also emphasized, 383 U.S. at 6, and *Black Rock* reiterated, 396 U.S. at 61, that, under the Constitution, "* * * Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available."

In *Black Rock*—like *Graham*, a unanimous decision—this Court said:

> "Obviousness, as an issue is resolved as follows [under *Graham*]:
>
> 'Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the art resolved.' (383 U.S. at 17)
>
> We admonished that 'strict observance' of those requirements is necessary. Id., at 18 . . ." 396 U.S. at 62.

The alleged special test for combination claims does not depart from *Graham's* basic inquiries but fits precisely under their umbrella. More specifically,

> a) if one examines the "scope and content of the prior art" and finds each element with an explanation of its function to be included therein,[13] and

[13] The suggestion by the D.C. patent lawyers, implicit in the second paragraph of their out-of-context quotation from *Reeves Instrument Corp.* v. *Beckman Instruments, Inc.*, 444 F.2d 263 (9th Cir. 1971), Brief at 25, that prior art elements may not be individually examined in assessing "scope and content of the prior art", but can be looked at only if presented, as a *whole* [combination]", clashes directly with the same lawyers' premise "that a decision on nonobviousness must be made *only* after consideration of *all* rele-

b) one then finds that "the differences between the prior art and the claims at issue" consist *solely* in the fact that the elements have either not previously been combined or have not been combined in the same order, so that the result was wholly foreseeable from the known functions of the individual elements,

c) *a fortiori* the "level of ordinary skill in the art" was sufficient to provide the combination since all elements were known and their functions, which remained unchanged, were understood. *Further* inquiry into level of skill in the art then becomes superfluous.[14]

In short, the combination test is a *subtest* within the *Graham* basic inquiries; it is more limited because the "level of skill" answer is a necessary consequence of the "scope and content" and "differences" answers, but it is not "separate" from *Graham*, as suggested by the D. C. patent lawyers (e.g. Brief at 19). Properly applied, it does *not* hamper, but *fosters*, "development of a consistent body of law under § 103", (Id. at 19), just as it fostered the development of the *invariable* pre-1952 patentability standard which *Graham* found to have been codified in § 103.

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vant evidence" (Brief at 12) since it would disqualify major portions of the prior art evidence in every case.

Moreover, the suggestion is inconsistent with § 103's own language wherein the words "as a whole" clearly modify the *claimed* "subject matter"—i.e., the alleged invention—*not* "the prior art." Thus § 103 calls for an evaluation of "the differences between the subject matter sought to be patented and the prior art" to see if *those differences* "are such that the [allegedly inventive] subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art . . ."

[14] To hold otherwise would countenance the use of patents as a pretext for monopolizing *old knowledge* by cosmetically recombining old elements at will without ever contributing technologically significant information.

Consistency of *Graham's* basic inquiries with *Black Rock's* "combination" subtest is further demonstrated by the fact that if inquiry into "differences" reveals a result unpredictable from the known functions of the individual old elements—i.e., "synergistic" or exceeding their sum—then the "level of ordinary skill in the art" must be assessed on the basis of further evidence.[15]

Viewing the matter in this light, moreover, it is clear that the "combination" rationale is applicable to every invention if one feels impelled, like the D. C. patent lawyers, to view every invention as a combination of old elements (Brief at 22-24). Using that approach, the chemical compound at issue in *Commissioner* v. *Deutsche Gold-und Silber-Scheideanstalt Vormals Roessler*, 397 F.2d 656 (D. C. Cir. 1968) cited in D. C. Bar Brief at 4, n. 5, and at 30, was a combination of old chemical elements, but the "differences" were such that the combination was synergistic in that the function of the combination was wholly *un*predictable from the known properties of the individual elements.[16] The same can be said of "Dr. Seaborg's invention of the transuranium elements" (D. C. Bar Brief at 24).[17] Even the Fourdrinier machine

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[15] It follows that "synergism" as a legal term of art, as used in *Black Rock* will characterize *all* patentable combination inventions, but *not all* claims defining synergistic combinations will be patentable. Thus, for example, the synergistic result may have been attained previously or may be within the level of ordinary skill because of other pre-existing knowledge and hence be unpatentable. *Black Rock* accordingly does *not* substitute synergism for nonobviousness as the D.C. Bar charges (Brief at 20, n. 35a).

[16] Importantly, chemical compounds *always* display "synergism" because chemical elements are *always* transformed when they react, so that each loses its separate identity and known functions in the "combination." Whether a chemical compound is *patentable* is accordingly never dependent upon the "combination" subtest but must be determined from the answers to the "basic factual inquiries" as then beamed upon the compound *per se*. See also Note 15, *supra*.

[17] *Reeves Instrument Co.* vs. *Beckman Instruments, Inc.*—*supra* n. 13, is presented in an erroneous light by the D.C. Bar Brief

improvement patent adjudicated in *Eibel Process Co.* vs. *Minnesota & Ontario Paper Co.*, 261 U.S. 45 (1923) cited in D. C. Bar Brief at 31, exhibited synergism and hence was capable of supporting a valid patent.

To sum up, where "differences" reside only in putting together what the art knew how to use separately with a merely additive, wholly predictable result, there is obviousness under § 103 and *per se* unpatentability,—and that has been the law since at least 1790. Only when the "differences" include the presence of a new, *non*-additive, *un*predictable result, may nonobviousness and hence patentability be found—and then *only if* the "basic inquiries" otherwise provide a justification for the finding.[18]

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at 25-26, through carefully tailored quotation. Actually, *Reeves* properly recognized that ". . . the Court in *Black Rock* reaffirmed the position it had previously taken in *Graham* v. *John Deere Co.*, 383 U.S. 1, to make clear that the crucial question in determining obviousness is whether the differences between the subject matter sought to be patented, as a whole, and the prior art are obvious to a man of ordinary skill in the art." 444 F.2d at 271.

The later Ninth Circuit Opinion in *Rex Chainbelt, Inc.* vs. *Harco Products, Inc.*, 512 F.2d 993, 999-1000 (1975) explains that Reeves comports with *A & P* and *Black Rock*.

To the extent *Reeves* suggests that strict application of the principle of *per se* unpatentability of aggregations of old elements, each of which performs an old and well known function in combined form, will soon disqualify "virtually every new mechanical or electrical device" from being patented, *Graham* provides the answer, 383 U.S. at 19. As the Court there noted. "Technology . . . has advanced and with remarkable rapidity in the last 50 years . . . The ambit of applicable art in given fields of science has widened by disciplines unheard of a half century ago. It is but an even-handed application to require that those persons granted the benefit of the patent monopoly be charged with an awareness of those changed conditions." *In other words*, various disciplines, such as mechanics, *may* well be subsumed entirely within the ordinary level of skill in the art at some point—and when that happens, patents *will* be precluded in those fields.

[18] The D.C. patent lawyers are *wrong* in asserting that the Court in *United States* v. *Adams*, 383 U.S. 39 (1966) found "that each element of the battery [every one of which was old] functioned

"Secondary Considerations" Are An Unreliable Last Resort In Evaluating Obviousness

In *Graham* this Court was careful to point out that

> "Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., *might* be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries *may* have relevancy . . . ." 383 U.S. at 17, (Emphasis Added)
>
> * * * * * * * *
>
> "Such inquiries [into secondary considerations] *may* lend a helping hand to the judiciary . . . . They may also serve to 'guard against slipping into hindsight' . . . ." 383 U.S. at 35, (Emphasis Added)

The patent lawyers seek to distort the word "secondary" and the words "may" and "might" in an effort to put in this Court's mouth words it never said, thereby elevating secondary considerations to first rank and mandating their consideration in every case.

The clear implication of what the Court *did* say, consistent with *Graham's* conclusion that § 103 simply codified antecedent precedent from this Court expressing a patentability standard which "has remained invariable", is that secondary considerations are of *inferior* impor-

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in exactly the same way as it did in the prior art" (Brief at 27). The Court's opinion specifically includes a finding that "Here, however, the Adams battery is shown to embrace elements having an *interdependent functional relationship*" (383 U.S. at 50; Emphasis Added). Moreover, it is apparent from reading the Opinion *in context* that the Court concluded that the Adams battery had been assembled in contravention of, rather than in strict conformity with, the existing state of knowledge in the art—hence that the elements did *not* each perform their known functions. In addition, the Court held "the fact that the Adams battery is water-activated sets his device apart from the prior art", 383 U.S. at 48, which allegedly did not refer to water-activated batteries.

tance to the "basic inquiries" and *may* be resorted to *only to the limited extent and for the limited purpose* permitted by antecedent case law from this Court and hence *cannot* be considered unless the answers to the three "basic inquiries" leave room for doubt as to patentability.

A fundamental reason for this approach is that alleged inventions differing immaterially from the prior art and achievable at the level of minimal or no skill in the art—hence "obvious" under § 103—are often commercially successful or can be subjectively demonstrated through clever witness selection and preparation, to satisfy long-felt commercial "needs" or to astound putative experts.[19] It is accordingly of the highest importance that first the Patent Office and secondly the courts, satisfy themselves in each case that the alleged invention is more than a stratagem for creating a private monopoly in existing knowledge, thereby depriving skilled artisans of access to well known elements, *prior* to risking the often unreliable or misleading influence that "secondary consideration" evidence may exert.

As this Court said with specific reference to commercial success in *McClain* v. *Ortmayer*, 141 U.S. 419, 428 (1890):

> ". . . If the generality of sales were made the test of patentability, it would result that a person by securing a patent upon some trifling variation from previously known methods might, by energy in pushing sales or by superiority in finishing or decorating his goods, drive competitors out of the market and secure a practical monopoly without in fact having made the slightest contribution to the useful arts . . . ."

[19] Note the Fifth Circuit's tribute (Pet. 15a) in *this* case to Respondent's "skillfully" designed evidentiary presentation. See also, e.g. the examples of this "skillfully" designed evidence quoted in Respondent's Brief at 16-19.

Numerous pre-1952 decisions of this Court invoked the same rationale to assign to one or more of the "secondary considerations" a markedly inferior importance in assessing patentability and to emphasize that "secondary consideration" evidence may be received, if at all, only in doubtful cases. Examples include *Hotchkiss* itself, *Reckendorfer* v. *Faber*, 92 U.S. 347 (1876), *Paramount Publix Corp.* v. *American Tri-Ergon Corp.*, 294 U.S. 464 (1935), *Dow Chemical Co.* vs. *Halliburton Oil Well Cementing Co.*, 324 U.S. 320 (1945); *Sinclair & Carroll Co.* v. *Interchemical Corp.*, 325 U.S. 327 (1945); *Mandel Bros.* v. *Wallace*, 335 U.S. 291 (1948); *Jungersen* v. *Ostby and Barton Co.*, 335 U.S. 560 (1949) and *A & P*, *supra*. *Graham*, in context, simply reemphasized this principle.

Subsequent to *Graham*, *Black Rock* quoted from *A & P* to emphasize again that ". . . long-felt want . . . and commercial success . . . 'without invention will not make patentability.'" 396 U.S. at 61.

The lower federal courts, including two of the circuits noted by the D. C. patent lawyer amici as "'not inhospitable to patents'" (Motion p. 3a), the Sixth and Seventh Circuits, have generally had no difficulty in understanding that *Graham* and *Black Rock* preserved a pre-existing state of law to assign *inferior* importance to "secondary consideration" evidence and to preclude its consideration except in genuinely doubtful cases. See, e.g.,—*Vanity Fair Mills, Inc.* vs. *Olga Co.*, 510 F.2d 336, 338-340 (2nd Cir. 1975);[20] *Hadco Products, Inc.* vs.

[20] The seemingly inconsistent dicta in *Timely Products* vs. *Arron*, 523 F.2d 288 (2nd Cir. 1975) quoted in D.C. Bar Brief at 33, must be understood in the context of the facts that (a) *Timely* was written for the Second Circuit by the only district judge in the United States who was a patent lawyer before appointment to the bench and (b) notwithstanding § 103's express direction that obviousness is to be assessed as of "the time the invention was made", *not later*, the Second Circuit occasionally strays into error traceable

Walter Kidde & Co., 462 F.2d 1265, 1276 (3rd Cir. 1972); *Blohm & Voss AG* v. *Prudential Grace Lines, Inc.*, 489 F.2d 231, 243 (4th Cir. 1973); *Skega Aktiebolag* v. *B. F. Goodrich Co.*, 420 F.2d 1358, 1360 (6th Cir. 1970); *Speakman Co.* vs. *Water Saver Faucet Co.*, 497 F.2d 410, 411 (7th Cir. 1974); *Hewlett-Packard Co.* vs. *Tel-Design, Inc.*, 460 F.2d 625, 630-1 (9th Cir. 1972).

A different state of affairs exists in the CCPA, however—and it is that Court's aberrant approach which the D.C. patent lawyers now urge this Court to adopt (Brief at 32). The evolution of that Court's present approach to secondary considerations affords considerable insight into the Patent Office's increased proclivity for granting ever more patents on alleged inventions of ever less technological importance and hence merits attention from this Court.

Prior to *Graham*, the CCPA recognized the inferior importance and *limited* relevance of "secondary considerations" evidence on patentability questions. *Application of Cline*, 345 F.2d 847, 850 (CCPA 1965); *Application of Jones*, 298 F.2d 944, 946 (CCPA 1962). In 1966 after *Graham* was decided, the CCPA com-

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to erroneous patent decisions promulgated by the late Judge L. Hand, e.g., in *Safety Car Heating and Lighting Co.* vs. *General Electric Co.*, 155 F.2d 927, 939 (2nd Cir. 1946) quoted in D.C. Bar Brief at 29-30. Judge Hand, albeit an able jurist in many areas, has expressed opposition to the constitutional standard of invention as delineated in this Court's opinions and generally devoted himself, in adjudicating patentability questions, to looking for ways to avoid coping with technology *per se*. See, e.g. *Parke-Davis & Co.* vs. *H. K. Mulford Co.*, 189 F. 95, 115 (CCSDNY 1911) wherein even as a district judge, he placed great weight on such secondary considerations as the opinions of experts in the field and added "I cannot stop without calling attention to the extraordinary condition of law which makes it possible for a man without even the rudiments of chemistry to pass upon such questions as these" involving the validity of certain pharmacological product patents. See also *Safety Car, supra*, 155 F.2d at 939 and cases cited, *Reiner* vs. *I. Leon Co.*, 285 F.2d 501, 504 (2nd Cir. 1960).

menced to shift position on "secondary consideration" evidence, using the same distortion of its language that is urged here as the pretext for holding that such evidence should be admitted *even* if no doubt as to patentability existed. See *Application of Sherman*, 361 F.2d 1008, 1012 (CCPA 1966). The trend metamorphosed through such cases as *Application of Caveney*, 386 F.2d 917 (CCPA 1967); *Application of Warner*, 397 F.2d 1011, 1017 (CCPA 1967), *Application of Sponnoble*, 405 F.2d 578, 587 (CCPA 1969); *Application of Tiffin*, 443 F.2d 394, 398-399 (CCPA 1971), modified on other grounds, 448 F.2d 791 (CCPA 1971); *Application of McLaughlin*, 443 F.2d 1392, 1395-1396 (CCPA 1971); *Application of Palmer*, 451 F.2d 1100, 1102-1104 (CCPA 1971); *Application of Mageli*, 470 F.2d 1380, 1382-1383 (CCPA 1973); *Application of Fielder*, 471 F.2d 640, 643-646 (CCPA 1973) and *Application of Felton*, 484 F.2d 495, 500-501 (CCPA 1973) to where the CCPA now insists that all "secondary consideration" evidence *must* be accorded weight and importance equal to or greater than that received on *Graham's* basic inquiries. In *Fielder*, for example, the CCPA expressly held that "If it was previously the law that commercial success is 'of no moment unless patentability is in doubt' [citing case], such a proposition no longer has validity." Also in *Fielder*, it declined to reconsider this position, at the urging of the Patent Office, in the light of *Black Rock*, and used *Graham* as the excuse for its refusal. According to the CCPA, commercial success is even a determinant, inferentially, of the level of skill in the art and hence may be used to *rebut* a *prima facie* showing of obviousness grounded on the insignificance of the differences between the alleged invention and the prior art. See, e.g., *Felton, supra.*

As a *de facto* matter, this CCPA treatment of "secondary considerations" evidence has substituted for the "rule of doubt", *Application of Hofstetter*, 362 F.2d 293

(CCPA 1966), *cert.* granted *sub. nom. Brenner* vs. *Hofstetter*, 386 U.S. 990 (1967); vacated 389 U.S. 5 (1967), appeal dismissed 55 CCPA 1493 (1967), in that Court and the Patent Office and encouraged increased proliferation of doubtful patent grants. *Hofstetter* explained the reasons for the "rule of doubt" as follows:

> "Several of the factors properly taken into account in determining patentability, especially obviousness and utility, are often not known at the time when the application is being prosecuted in the Patent Office, but are developed later, perhaps even after the patent is issued. It therefore is proper that doubt should be resolved in favor of applicants so that they shall not be denied patents which later events may show them entitled to. Among such events, which may even have to await patenting, are commercial success, unexpected utility, displacement of competing devices, etc."

The CCPA allegedly has not applied the rule since *Hofstetter, Application of Naber*, 503 F.2d 1059, 1060 (CCPA 1974), and the Patent Office purportedly abandoned it formally about the same time. Mandatory consideration of "secondary" evidence on the issue of patentability, however, leads to essentially the same result for essentially the same reasons.[21]

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[21] The CCPA is now engaged in proselytizing judges in other courts to adopt a stance similar to its own on "secondary considerations." Its chief judge recently told a judges' gathering that:

> ". . . But these considerations are not secondary in *importance*, they are secondary only in time because they occurred or became relevant only after the invention was made. Just as you test many acts in other cases by what happened afterwards, it is proper and important and necessary to consider commercial success, copying by others, licenses, filling of a long-felt need and similar events in patent cases. The nexus between these features of the invention environment may be weak or strong. The weight you will attach to them will vary accordingly. But these indicia should be considered before, not after, you decide the question of obviousness. There is no warrant for disregarding any probative evidence in any case, patent cases included." *Markey*, Special Problems in Patent Cases, 57 J. Pat. Off. Soc'y 675, 684 (1975).

It is passing strange that the D.C. patent lawyers and the CCPA should abjure hindsight in evaluating prior art evidence relevant to patentability while insisting as they do, that hindsight and after-the-fact occurrences are of superior probity to overcome the effect of such evidence.[22]

Equally strange is their bemoaning of "divergence . . . in the standards of patentability" in face of the circumstance, clearly shown by the apposite cases decided since *Graham* that the major sources of divergence are the CCPA and the Patent Office. If the heresies they have espoused are corrected *now*, there *will be* a uniform body of law under 35 U.S.C. § 103.

CONCLUSION

Respondent's combination patent entitled "Dairy Establishment" is not novel, and does not meet the test of being nonobvious under 35 U.S.C. § 103 to a person having ordinary skill in the art to which the subject matter of the patent pertains. Because "Dairy Establishment" does not satisfy either the Constitutional test of Article I, Sec. 8, Cl. 8 or the statutory test of patentability within 35 U.S.C. § 101, 102 and 103, any other descriptive terminology that may be used to describe the effect or quality of the patent, such as "synergistic effect" is legally immaterial upon which to base patent validity. The Opinion of the Court of Appeals for the Fifth Circuit which predicated patent validity did so on a basis that was not lim-

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[22] Judge Rich, author of the D.C. Bar's Appendix A, states at 14a,

> "I suggest that in thinking about those [secondary] considerations, they be looked upon for what they factually are, circumstantial evidence of unobviousness of the highest probative value . . ."

ited by the statutory language set forth in 35 U.S.C. § 101, 102 and 103. Because the correct standard for determining patent validity was not followed, the Fifth Circuit Judgment upholding validity must be reversed. This Honorable Court can review the question of validity as a question of law, and render Judgment in favor of Petitioner.

The trial court finding to the effect that this combination did not show invention, did not meet the test of non-obviousness when viewed by the standard prescribed by 35 U.S.C. § 103, and the further finding that Petitioner was entitled to a new trial because of newly discovered evidence, the evidence introduced being sufficient to rebut any presumption of validity of the patent, when viewed against the standard prescribed by Rule 52 F.R.C.P., are entitled to be affirmed and upheld because they are supported by credible evidence of record, are not clearly erroneous and were reached by proper application of law to facts.

WHEREFORE, PREMISES CONSIDERED, Petitioner respectfully prays that this Honorable Court answer each of the questions submitted in the affirmative, that the Court invalidate the combination patent entitled "Dairy Establishment", that the complained of Judgments from the Court of Appeals, Fifth Circuit, be in all things reversed and rendered in favor of Petitioner, that Petitioner recover all of his costs and expenses incurred by said appeals, and that he have such other and

further relief to which under the law he is justly entitled.

Respectfully submitted,

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CERTIFICATE

I hereby certify that a copy of the above and foregoing Reply Brief has this day been served upon opposing counsel of record by placing same in the United States Mail, postage prepaid and properly addressed on this the —— day of ————————, 1976.

MOTION FILED
JAN 5 1976

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,

Petitioner,

v.

AG PRO, INC.,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

MOTION FOR LEAVE TO APPEAR AS AMICUS CURIAE AND BRIEF AMICUS CURIAE OF THE BAR ASSOCIATION OF THE DISTRICT OF COLUMBIA

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ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

MOTION BY THE BAR ASSOCIATION OF THE DISTRICT OF COLUMBIA FOR LEAVE TO APPEAR AS AMICUS CURIAE

I.

INTRODUCTION

Amicus, The Bar Association for the District of Columbia, hereby moves for permission to file an *amicus* appearance in the captioned case. This motion is being filed under Rule 42(3) since, while *Amicus* has been advised by counsel for respondent Ag Pro, Inc. that it has no objections to giving consent to *Amicus* to appear in this case, counsel for petitioner Sakraida has indicated that petitioner will not give his consent.

II.

INTEREST OF AMICUS

This case involves, *inter alia*, an interpretation of Art. 1, Sec. 8, Cl. 8, of the Constitution and 35 U.S.C. § 103 and, more particularly, the application of the statutory unobviousness test to a so-called "combination" patent where all the claimed elements of the combination are admittedly old.[1] This case represents the first opportunity since *Graham v. John Deere Co.*, 383 U.S. 1 (1966)[2] and *Anderson's – Black Rock, Inc. v. Pavement Salvage Co.*, 393 U.S. 57 (1969), for the Court to apply the unobviousness test to a combination patent and to cure the confusion in applying this standard which exists in the lower courts.

Amicus contains about 4200 members, many of whom are patent lawyers who are vitally interested in the proper functioning of the patent system. These patent lawyers represent and serve the interests of clients ranging from individual inventors to the largest corporations, to all of whom the patentability issues under consideration here are of vital importance. The question of the standard of patentability of combination inventions far transcends the narrow interests of the parties to this case and will have a profound effect on decisions such as, for example, whether it is worthwhile to file a patent application on a new development or whether a large research expenditure should be made in view of the type of patent protection available. Accordingly, the views of those who render advice to the people who make these decisions deserve to be heard.

[1] The three issues presented by the petitioner are (1) the unobviousness question, (2) whether the Court of Appeals erred in setting aside the Trial Court's finding of invalidity, and (3) whether the Court of Appeals erred in setting aside the Trial Court's findings that petitioner was entitled to a new trial. If this motion is granted, *Amicus* will address only issue (1).

[2] Decided concurrently with *Calmar, Inc. and Colgate-Palmolive Co. v. Cook Chem. Co.*, 383 U.S. 1 (1966); and *United States v. Adams*, 383 U.S. 39 (1966). *Graham*, *Calmar* and *Adams* will hereinafter collectively be referred to as "*Graham.*"

III.

DISCUSSION

In 1966, this Court handed down its celebrated opinions in *Graham*, which many in the patent bar applauded as a clear and succinct statement of the unobviousness standard of 35 U.S.C. § 103 and how it was to be implemented. *Graham*, it was hoped, would put an end to the confusion which theretofore had existed among the courts as to what was a patentable invention and would thus stabilize this vital area of the law.

Such hopes, however, were stillborn. For since *Graham* was decided, the United States Courts of Appeals have split over *Graham's* criteria for unobviousness in two different and inconsistent ways. The inevitable consequence of this lack of uniformity in decisions

> is that patent owners and alleged infringers spend inordinate amounts of time, effort and money jockeying for a post position in the right court for the right issues. Nowhere is the quest more vigorously pursued than for the right forum to rule on validity. Patentees now scramble to get into the 5th, 6th and 7th Circuits since the courts there are not inhospitable to patents whereas infringers scramble to get anywhere but in these circuits. Such forum shopping not only increases litigation costs inordinately and decreases one's ability to advise clients, it demeans the entire judicial process and the patent system as well.[3]

It is accordingly of great public importance to the continued vitality of the patent system that the proper test for unobviousness be chosen and correctly applied to the resolution of the underlying factual issues. The instant case provides this Court with its first opportunity since *Graham* and *Black Rock* (which itself did more to confuse than to clarify the existing confusion) to apply the unobviousness test and to provide much-needed guidance to the lower federal courts. Indeed, such need was highlighted by the Fifth Circuit

[3] Commission on Revision of the Federal Court Appellate System, Structure and Internal Procedures: Recommendations for Change, at A-178 (June 1975).

in the instant case, when it noted that "Although the Court in *Graham* clearly rejected the Fifth Circuit rationale that an invention is patentable when it produces an 'old result in a cheaper and otherwise more advantageous way,' what precise test, if any, that Court substituted is unclear."

This issue may not adequately be treated by the parties to this case, simply because *their* interests revolve narrowly about the patentability or lack of it of the patented barn cleaning system. While *Amicus* does not question the parties' ability to present their limited concerns adequately to the Court, as often happens in situations such as this, the broad public interest in clarification of the law is overshadowed by the private interests which bring the parties together before the bench.

IV.

CONCLUSION

If the proper test to be applied is clarified by the Court now, patent owners, businessmen and potential infringers can order their business activities to accord with whatever threshold level of patentability this Court enunciates. Whatever the level, the parties will be able to predict with some degree of accuracy what test lower courts will select to determine the validity of patents which come before them.

Amicus feels it is in a position to assist the Court in making its determination. For this and the foregoing reasons, this request for permission to make an *amicus* appearance on the first question presented by the petitioner should be granted.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,

Petitioner,

v.

AG PRO, INC.,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

BRIEF AMICUS CURIAE OF THE BAR ASSOCIATION OF THE DISTRICT OF COLUMBIA

I. INTEREST OF AMICUS

The essential interest of *Amicus* in this case is to urge the Court to resolve existing conflicts in the application of the *tests* of patentability by different tribunals so as to foster the development of a uniform body of law. Accordingly, *Amicus* takes no position as

to whether, on the facts of record, the patent in suit should be held valid or invalid. It is only the tests to be applied in validity adjudication, the lines of analysis of the facts of record, and the treatment of various types of evidence with which *Amicus* is concerned.[4]

II. SUMMARY OF ARGUMENT

This Court's celebrated *Graham* opinions interpreted the general condition of patentability as set forth in 35 U.S.C. § 103. The § 103 nonobviousness standard was held to be the operative test of the patentability of new and useful inventions. Guidelines for determination of obviousness or nonobviousness were provided, and the Court expressly sanctioned consideration of so-called "secondary" or subtest evidence as it may bear on nonobviousness in any given case.

Uncertainty and conflict has arisen with respect to the proper application of the § 103 condition, especially as to inventions which are considered to be "combinations" of known elements, and with respect to the relevance of "secondary" considerations. These are conflicts which must be resolved by this Court if there

[4]Petitioner Sakraida presents three (3) questions for consideration by this Court. This *amicus* brief deals only with the tests for determining patentability issues, which are involved in Petitioner's question 1 as set forth in Petitioner's Main Brief at 4. This brief does not specifically deal with the "overclaiming" issue raised as part of question 1 in Petitioner's Main Brief. The Court's attention is, however, directed to this Court's holding in Williams Mfg. Co. v. United Shoe Machinery Corp., 316 U.S. 364 (1942), which discusses this subject at length.

is ever to be a uniform and reasonably predictable law of patentability. This case provides the Court with the opportunity to do so.

A special test of "combination" claim patentability, sometimes applied, is inconsistent with the § 103 nonobviousness standard as construed in *Graham*. It precludes inquiries which could lead to resolution of the obviousness issue. Moreover, it has long been recognized that all inventions can be characterized as combinations of known things; people do not create using the unknown. This further undercuts any rational basis for a special test of "combination" patentability.

Amicus takes no position as to the patentability of the invention of the patent in suit. The Court is simply requested to reaffirm the exclusivity of § 103 nonobviousness as the criterion of patentability; to reject a special test for so-called "combination" patents; and to review the validity of the patent in suit using the *Graham* pattern of analysis leading to a determination of obviousness or nonobviousness.

The so-called "secondary" evidence, such as evidence of long-felt need in the art, failure of others to recognize or provide solutions to long-standing problems and commercial acceptance of an invention, shed light on the circumstances surrounding the making of an invention and provide a basis for sound inferences concerning the level of ordinary skill in the pertinent art at the time the invention was made. Where such evidence exists it is directly relevant to the factual inquiries held in *Graham* to be threshold considerations to a determination of obviousness or nonobviousness. Some courts have held, to the contrary, that such evidence is not relevant to patentability. The Court

should correct this error and insist on the consideration of *all* evidence bearing on the § 103 obviousness issue *before* reaching a decision thereon.

By reaffirming § 103 nonobviousness as the sole test of patentability of new and useful inventions and by acknowledging the relevance of subtest evidence in *all* cases, the Court will take a major step in setting the courts and the Patent Office on the proper course toward development of a uniform and reasonably predictable patent law. This will further a fundamental objective of Congress in enacting the § 103 nonobviousness standard of the 1952 Patent Act.

III. ARGUMENT

A. INTRODUCTION

In *Graham* this Court held the 35 U.S.C. § 103 nonobviousness test of patentability to be in keeping with the Constitutional authorization for Congress to enact patent laws.[5] In addition to discussing the § 103

[5] *See* 383 U.S. at 17. The relationship between the § 103 nonobviousness standard and a Constitutional standard was discussed in Comm'r. Pats. v. Deutsche Gold-und-Silber-Scheideanstalt Vormals Roessler, 397 F.2d 656 (D.C. Cir. 1968), the court noting that in *Graham* this Court implied "that advancement was the equivalent of 'Progress' as used in the constitutional phrase". 397 F.2d at 665. The Commissioner of Patents had apparently urged "advance in the art" as a *separate* additional condition of patentability. The Court of Appeals, speaking through Judge (now Chief Justice) Burger, rejected this argument and held as follows:

> If advance in the useful art is the necessary standard to sustain patentability, the more logical view is that three independent statutory conditions are not separate from advancement but are the very indicia of it, in particular the condition of non-obviousness. *See* Note, 54 Geo.L.J. 1320, 1339 (1966).
>
> Under this analysis we have some difficulty in perceiving how a claimed compound which is new, useful, and unobvious can still *not* constitute an advance in the art. The Commissioner's position is that even if the three conditions are fulfilled, a step *backward* in the art is not patentable. But the relevant art does not go "backward" when the three conditions are fulfilled. The Commissioner's position appears to be a contradiction in terms. [Footnotes omitted.] 397 F.2d at 666.

standard and providing guidelines for its application, the Court directed the Patent Office and the courts to use nonobviousness as the operative test of patentability of new and useful inventions so as to provide a reasonably uniform and predictable body of law.[6] In addition, *Graham* specifically sanctioned consideration of certain evidence, such as long-felt need in the art, failure of others to recognize or provide solutions to long-existing problems, and commercial success – the so-called "secondary considerations"[7] or "subtests" of nonobviousness.[8]

Since *Graham*, there has been divergence, rather than uniformity, in the standards of patentability as applied not only in the different circuits, but by different panels of the same circuit as well.[9] Some tribunals have

[6] Novelty and utility are two of the conditions of patentability. 35 U.S.C. §§ 101 and 102. Compliance with these requirements does not appear to be at issue in this case.

[7] 383 U.S. at 17-18.

[8] *Id.* at 36.

[9] Comprehensive statistical and substantive compilations and analyses lead to the necessary conclusion that the various U.S. Courts of Appeal are using more than one set of legal standards.

applied a special test of patentability to inventions considered to be combinations of known elements,[10] while others have remained true to the *Graham* mandate to evaluate *all* inventions under the § 103 nonobviousness-obviousness standard.[11] Also, some courts have refused to consider the subtests which *Graham* held to be potentially indicative of nonobviousness,[12] while others have followed *Graham* in this respect.[13]

The Court's later opinion in *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969), referred to both the § 103-*Graham* nonobviousness standard and the special test of combination patentability without providing resolution of the inconsistencies between those two tests. Moreover, *Black Rock* denigrated the probative value of the subtest factors in the absence of "invention", while expressing the need for courts and the Patent Office to focus on the § 103-*Graham* test of patentability. The seemingly internally conflicting analysis of *Black Rock* has

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Thus, the Seventh and Fifth Circuits' holding 45.6% and 51.8% of their adjudicated patents to be valid, after *Graham*, according to a 1970 study, was strikingly different from the Eighth and Ninth Circuits' holdings of 0.0% and 16.3%, respectively, during the same time period. See Kayton, *The Crisis of Law in Patents*, P. I, 5 (Patent Resources Group, Wash. D.C. 1970).

[10] *See, e.g.*, Jeddeloh Bros. Tweed Mills, Inc. v. Coe Mfg. Co., 375 F.2d 85, 88 (9th Cir. 1967), *cert. denied*, 389 U.S. 823 (1967).

[11] *See, e.g.*, Reeves Instrument Corp. v. Beckman Instruments, Inc., 444 F.2d 263 (9th Cir. 1971), *cert. denied*, 404 U.S. 951 (1971).

[12] *See, e.g.*, Vanity Fair Mills, Inc. v. Olga Co., 510 F.2d 336, 340 (2d Cir. 1975).

[13] *See, e.g.*, ADM Corp. v. Speedmaster Packaging Corp., 384 F. Supp. 1325, 1345 (D.N.J. 1974).

unavoidably introduced uncertainty as to the meaning of the *Graham* interpretation of the § 103 nonobviousness standard. This uncertainty is especially acute in the two important areas of so-called combinations of old or known elements and the evidentiary status of the so-called "secondary" considerations or "subtests" of nonobviousness.

The state of patent law in this area today is such that the Patent Office and the courts can and do draw from either of two dichotomous lines of thought to support, from case to case, inconsistent tests for patentability. Obviously, both cannot be proper under the *Graham* analysis. In contrast, this Court has held the legislative intent in enacting § 103 as part of the 1952 Patent Act was to obtain judicial and administrative adherence to the standard of nonobviousness, and attain a single, uniform body of patent law.[14] The realization of that objective is of vital public importance.

With this background in mind, *Amicus* seeks to persuade the Court to reaffirm the § 103 obviousness-nonobviousness standard as explicated in *Graham* as the *exclusive* test to be applied to the patentability of new and useful inventions. In so doing, the Court should require the consideration of *all evidence* relevant to the obviousness-nonobviousness question in each case in which the question is raised without harking back to pre-1952 Patent Act subjectivity.

Petitioner Sakraida presents three (3) questions for consideration by this Court. This *amicus* brief deals only with the tests for determining patentability issues, which are involved in Petitioner's question 1 as set forth in Petitioner's Main Brief at 4.

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[14] Graham v. John Deere Co., 383 U.S. at 18.

B. THE SECTION 103 NONOBVIOUSNESS TEST AS INTERPRETED IN *GRAHAM* IS THE OPERATIVE TEST OF THE PATENTABILITY OF NEW AND USEFUL INVENTIONS.

Since enactment of our earliest patent statutes, Congress has required that, to be patentable, a discovery must be new and useful. These two requirements are inherently comprehensible and, with a modest degree of legislative and judicial refinement over the years, have spawned comparatively little controversy.

As revealed in *Graham*, greater difficulty has been experienced in defining and applying a standard for determination of whether or not particular new and useful discoveries differed sufficiently from what was known to warrant the grant of a patent.[15] Probably the earliest judicial expression of a third requirement of patentability appears in *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 267 (1850):

> [U]nless more ingenuity and skill . . . were required . . . than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the

[15] *Id.* at 5-19. Because the early patent board could not handle the task of delineating the patentable from the unpatentable, it was, as Thomas Jefferson, a board member, wrote, "turned over to the judiciary to be matured into a system, under which every one might know when his actions were safe and lawful." Letter from Jefferson to Isaac McPherson, August 1813, in VI *Writings of Thomas Jefferson* at 182 (Washington ed.).

> work of the skillful mechanic, not that of the inventor.

Approximately a century later, Congress, for the first time, incorporated this additional condition of patentability in the patent statutes. Section 103[16] of the Patent Act of 1952 provides in pertinent part that:

> A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

This court has noted that the standard of nonobviousness to a person having ordinary skill in the art is "strongly reminiscent" of the *Hotchkiss* requirement for more ingenuity and skill than possessed by an ordinary mechanic acquainted with the business.[17] However, referring to *Hotchkiss*, the Court in *Graham* stated that:

> The language in the case, and in those which followed, gave birth to "invention" as a word of legal art signifying patentable inventions. Yet, as this Court has observed, "[t]he truth is the word ['invention'] cannot be defined in such manner as to afford any substantial aid in determining whether a particular device involves an exercise of inventive faculty or not." McClain v. Ortmayer, 141 US 419, 427, 35 L ed 800, 803, 12 SCt 76 (1891); A. & P. Tea Co. v Supermarket Corp., supra, 340 US, at 151, 95 L ed at 166. Its use as a label brought about a large variety of opinions as to its meaning both in the Patent Office, in the courts, and at the bar.[18]

[16] 35 U.S.C. § 103.

[17] Graham v. John Deere Co., 383 U.S. at 14, 17.

[18] *Id.* at 11-12.

As a test or standard of patentability, the requirement for "invention" lacked inherent direction as to what inquiries could lead to determinination of compliance with it. The test of "invention" suffered, therefore, from an inability to be applied with any reasonable degree of objectivity or predictability.[19]

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[19]*See generally*, Note, *After Black Rock: New Tests of Patentability–The Old Tests of Invention*, 39 Geo.Wash.L.Rev. 123, 124-144 (1970), which was co-authored by one of the drafters of this *amicus* brief. Judge Giles S. Rich of the United States Court of Customs and Patent Appeals has written several commentaries on the evolution and development of the general requirement for patentability. *See* Rich, *The Vague Concept of "Invention" as Replaced by §103 of the 1952 Patent Act*, 8 Idea 136 (1946); Rich, *Congressional Intent–Or, Who Wrote the Patent Act of 1952*, Patent Procurement and Exploitation 61, 70 (B.N.A. 1963); Rich, *Principles of Patentability*, 28 Geo. Wash. L. Rev. 393 (1960). Judge Rich has been acknowledged to have been, as a private practitioner at the time, one of the principle draftsmen of the 1952 Patent Act in general and § 103 in particular. *See* the comments of Mr. Crumpacker, a former Congressman and member of the House Subcommittee and Committee out of which the patent bill was reported, in Crumpacker, *The Patent Act of 1952–A Congressional Perspective*, Summary of Proceedings, A.B.A.–Section on Patents, Trademarks and Copyright Law 141, 143 (1962).

Judge Rich again commented on the § 103 standard of patentability in *Laying the Ghost of the "Invention" Requirement*, 1 A.P.L.A.J. 24 (1972), an exposition which one federal court recently lauded as "a most persuasive substantive analysis of the subject." Opinion of Chief Judge Pettine in Rosen v. Lawson-Hemphill, Inc., ____ F.Supp. ____, 187 U.S.P.Q. 158, 169 n.14 (D.R.I. 1975). *Amicus* respectfully calls this Court's attention to that article by Judge Rich which, because of its lucid and authoritative treatment of the issues raised in the present case, is reproduced in full as the sole Appendix hereto for the convenience of the Court.

There is no reference to a requirement of "invention" in the 1952 Patent Act. Associate Judge Rich of the Court of Customs and Patent Appeals, a co-author of the Act, has said that "the drafters did this deliberately in an effort to free the law and lawyers from bondage to that old and meaningless term. . . ."[20] The term "invention" is used in the 1952 Patent Act only to denote the thing discovered, devised or created, and not to measure the *patentability* of a new product, apparatus or process.[21] Thus, under the Act, there are patentable as well as unpatentable "inventions." Once this is understood, "invention" cannot be a test for "patentability." In this connection, it was specifically held in *Graham* that:

> The major distinction [between the § 103 and *Hotchkiss* formulations] is that Congress has emphasized "nonobviousness" as the operative test of the section, rather than the less definite "invention" language of Hotchkiss that Congress thought had led to "a large variety" of expressions in decisions and writings. In the title itself the Congress used the phrase "Conditions for patentability; *non-obvious subject matter*" . . . [emphasis the Court's], thus focusing upon "non-obviousness" rather than "invention".[22]

Against this historical background, including the recognition of the lack of stability born of the intrinsically subjective and indefinite "invention" requirement, the Court, in *Graham*, expressed confidence that:

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[20]Rich, *Congressional Intent*, *supra*, Patent Procurement and Exploitation at 70.

[21]*See generally*, Janicke, *The Varied Meanings of "Invention" in Patent Practice: Different Meanings in Different Situations*, Pat. L. Persp. (1971).

[22]383 U.S. at 14.

> [T]he § 103 additional condition, when followed realistically, will permit a more practical test of patentability.[23]

Moreover, it was felt that:

> [S]trict observance of the requirements laid down here will result in that uniformity and definiteness which Congress called for in the 1952 Act.[24]

Re-dedication to that objective will follow if the Court takes the opportunity presented by this case to emphasize that under § 103 nonobviousness is the *sole* operative test of patentability of new and useful inventions and that a decision on nonobviousness must be made *only* after consideration of *all* relevant evidence.

C. THE *GRAHAM* ANALYTICAL APPROACH TO SECTION 103 NONOBVIOUSNESS SHOULD BE EXCLUSIVELY FOLLOWED IN EVERY CASE IN WHICH PATENTABILITY UNDER SECTION 103 IS IN ISSUE.

Consistent with the Court's appraisal of the salutary potential of the § 103 nonobviousness standard, the *Graham* opinion set forth guidelines to facilitate proper and reasonably predictable analysis for determination of compliance or non-compliance with that standard. The Court held as follows:

> [T]he Section 103 condition . . . lends itself to several basic factual inquiries. Under Section 103,

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[23] *Id.* at 17.

[24] *Id.* at 18.

> the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.[25]

To help adjudicating tribunals bridge the gap between the factual analysis and the ultimate determination of obviousness or nonobviousness, the Court discussed the propriety of giving consideration to certain types of evidence, holding that:

> Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. See Note, Subtests of "Nonobviousness," 112 U. Pa. L. Rev. 1169 (1964).[26]

Commenting on such factors in the *Calmar* portion of the opinion, the Court said:

> These legal inferences or subtests do focus attention on economic and motivational rather than technical issues and are, therefore, *more susceptible to judicial treatment than are the highly technical facts* often present in patent litigation. See Learned Hand in Reiner v. I. Leon Co., 285 F.2d 501, 504, 128 USPQ 25, 27-28, cert. den. 366 U.S. 929, 129 USPQ 502 (1960). See also Comment, Subtests of "Nonobviousness." 112 Pa. L. Rev. 1169 (June 1964). Such inquiries may lend a helping hand to the judiciary which, as Mr. Justice Frankfurter observed, is most ill-fitted

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[25] *Id.* at 17.

[26] *Id.* at 17-18.

> to discharge the technological duties cast upon it by patent legislation. Marconi Wireless Co. v. United States, 320 U.S. 1, 60, 57 USPQ 471, 496 (1943). They may also serve to "guard against slipping into hindsight," Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co., 332 F.2d 406, 412, 141 USPQ 549, 555 (1964), cert. denied 379 U.S. 888, 143 USPQ 465, and to resist the temptation to read into the prior art the teachings of the invention in issue. [Emphasis added.][27-29]

The Court actually applied the nonobviousness test in *Graham*, *Calmar* and *Adams*. The patents involved in *Graham* and *Calmar* were found to differ from the art only to such a degree that, considering all the evidence, *the subject matter as a whole* was deemed to have been obvious *at the time the respective inventions were made*. In *Adams*, the Court concluded that even though the individual elements of the claimed battery were previously known in the art, and though the invention seemed simple, consideration of *all* the evidence supported a holding of nonobviousness.

It will be recalled that Adams' invention was a constant-current, nonrechargeable battery which used water as an electrolyte. The structure claimed in the Adams patent was quite similar physically and chemically to the prior art, although it was novel under 35 U.S.C. § 102. The Adams battery used electrodes of cuprous chloride and magnesium. While electrodes of these materials had not been used in the same battery, zinc and silver chloride electrodes had been, and the prior art suggested the equivalency of cuprous chloride and silver chloride electrodes and magnesium and zinc electrodes. Had this Court restricted its consideration to

[27-29] *Id.* at 36.

the small differences which distinguished the Adams battery from prior art batteries, the inventor would have undoubtedly been out of luck. Instead, the differences were examined in the context of the subject matter as a whole, the level of ordinary skill in the pertinent art, the unexpected properties of the combination and the dramatic secondary factors of commercial success, long-felt need and other forms of objective evidence.

In providing direction by delineating the basic factual inquiries, acknowledging the relevance of various types of evidence, and illustrating the application of the *Graham* test in the varying factual settings of *Graham*, *Calmar* and *Adams*, the Court placed much flesh on the skeletal standard of § 103. *Graham* therefore provides a solid foundation on which to build a unitary, rational body of patent law. While the promise has not yet been fulfilled, this Court has the opportunity to reaffirm § 103 and *Graham* as setting forth the sole test of the third requirement of patentability, and thereby to reestablish a course which will lead to attainment of the "uniformity and definiteness which Congress called for in the 1952 Act."[30]

D. SINCE *GRAHAM*, THERE HAS BEEN CONFLICT AS TO THE PROPER TEST OF PATENTABILITY.

After *Graham*, a dichotomy developed as to how the nonobviousness criteria enunciated in *Graham* ought to be applied and what their practical purpose really is. This occurred despite the Court's admonition that:

[30] Graham v. John Deere Co., 383 U.S. at 18.

> [T]he inquiry which the Patent Office and the courts must make as to patentability must be beamed with greater intensity on the requirements of Section 103.[31]

In some instances, courts have correctly utilized the *Graham* analysis. However, other courts have harked back to the test of "invention", employing some of the arbitrary rules which evolved during the era of the "invention" requirement and which find no support, as universal propositions, under the § 103 nonobviousness standard. Still others have discussed both the "invention" and nonobviousness standards, leaving considerable doubt as to what the result would have been had the focus been exclusively on nonobviousness according to *Graham*.

Divergent expressions of the test of patentability have been nowhere more evident than in most important areas which the Court may treat in the present case. These are (1) the assessment of the patentability of a claim to a new combination of elements each of which is considered to be "old" in the art, and (2) whether factors such as long-felt need in the art, failure of others to recognize or provide solutions to long-existing problems in the art and commercial success are to be accorded weight. The existence of a substantial dichotomy in the courts on these two aspects of patentability determination is a major obstacle to the realization of the objective of a uniform and predictable patent law.

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[31] *Id.* at 19.

1. The Special Test of "Combination" Claim Patentability

Prior to the 1952 Act, the Court, in *Great Atlantic and Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152 (1950), held that:

> The conjunction or concert of known elements must contribute something; only when the whole in some way exceeds the sum of its parts is the accumulation of old devices patentable.

In *A. & P.*, the Court reaffirmed a rule earlier expressed in *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U.S. 545, 549 (1938), to the effect that:

> The mere aggregation of a number of old parts or elements which, in the aggregation, perform or produce no new or different function or operation than theretofore performed or produced by them is not patentable invention.

As explained in more detail in Section E, *infra*, the notion that *A. & P.* and *Lincoln Engineering* prescribed some other and special test for the evaluation of "combination" claims is inconsistent with the § 103 nonobviousness standard. Such a special test would preclude those inquiries delineated in *Graham* as germane to a determination of obviousness or nonobviousness. Hence, where some magic in a supposed *A. & P.-Lincoln Engineering* combination rule has been found to coexist with the § 103 standard, confusion as to the proper approach to patentability has inevitably resulted.

Superficial analysis has found a special test to have been stated by the Court in *A. & P.* in the admonition that courts:

> [S]crutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements.[32-33]

The broader approach announced and exemplified in *Graham* evokes no such foreordained likelihood of obviousness.

While the court below, in the present case, tried to accommodate both the special combination test and the nonobviousness standard, it is apparent that reconciliation is nothing more than a useless journey through a semantic labyrinth.

2. To Consider or not to Consider Evidence Which *Graham* Recognized to be Potentially Indicative of Obviousness.

In *A. & P.*[34] and, unfortunately, in *Black Rock*,[35] the Court stated that such factors as fulfillment of a long-felt want and commercial success "without invention will not make patentability". Such a proposition is incompatible with *Graham* in at least two major respects. First, as aforenoted, the Court in *Graham* explicitly directed attention away from the old "invention" requirement. Secondly, *Graham* squarely held that "secondary" evidentiary factors may be indicative of nonobviousness, *i.e.*, patentability, and in *Adams*, the Court actually found them to be both relevant and persuasive.

There can be no co-existence of the diametrically opposed principles that such ancillary evidence is on the one hand, relevant, and on the other hand, *cannot* be

[32-33] 340 U.S. at 152.

[34] 340 U.S. at 153.

[35] 396 U.S. at 61.

relevant. Consistent with the need to focus on the §103 test, the Court should now direct the Patent Office and courts to consider *all* evidence of nonobviousness, according such *weight* to any individual item as is appropriate under the circumstances of the case. It should be apparent that the availability of these mutually antagonistic principles can only lead to instability and uncertainty in the law.

E. SUBJECTING COMBINATION CLAIMS TO A SEPARATE TEST OF PATENTABILITY IS INCONSISTENT WITH THE *GRAHAM* MANDATE TO FOCUS ON THE §103 STANDARD, AND SUCH AN APPROACH SHOULD BE REPUDIATED.

As noted above, patent claims considered to be drawn to a combination of known elements have, under a rule extrapolated from *Lincoln-Engineering*, *A. & P.* and *Black Rock*, been required by some courts to meet a special test of patentability. Under this rule, the elements must be shown to function differently in combination than they do outside of the combination; they must, in the aggregate, produce a new or different function; and the combination must be determined to have an effect greater than the sum of the effects of its parts, *i.e.*, a "synergistic" result must be realized. Superimposing such special limitations on the *Graham*-§103 nonobviousness standard leads to discord rather than harmony; it prevents development of a consistent body of law under §103. No special test for any

separate class of invention finds rational support in the context of the §103 standard of patentability.[35a]

1. Application of the Special Test for Combinations Results in a Determination of Patentability Which Does Not Involve an Evaluation of Nonobviousness or Obviousness.

A reasoned comparison of the § 103 and combination standards starts with the assumption that the evidence in any given case reveals, *inter alia*, that the subject matter of the patent claim comprises a combination of several elements, each of which was known in some context prior to the invention patented. From that finding, the nature of further inquiry follows different courses depending upon whether the *Graham* and § 103 standard or the *A. & P. - Black-Rock* combination test is to be followed.

Under *Graham* and § 103, the overall scope and content of the prior art are evaluated. The differences between the claimed subject matter and the prior art are identified. The level of skill in the art prevailing at the time the claimed invention was made is evaluated.

In other words, under § 103, a comprehensive study is made of the relationship between the claimed invention and the state of the art as it existed just prior to the time of the invention to facilitate a conclusion as to whether or not a hypothetical person having

[35a] Most importantly, Congress has expressly mandated nonobviousness, not synergism, as the sole test for patentability of novel and useful inventions. While synergism may be evidence of nonobviousness, the latter may exist on a given set of facts without the former. Therefore, any requirement for synergism as a sine qua non of valid combination claims is pointedly inconsistent with the will of Congress.

ordinary skill in the art, *but not having the knowledge of the invention as disclosed in the patent*, would have found it obvious to make the claimed combination. The reconstruction of the mental processes of the person of ordinary skill at a given time is a difficult task. The *Graham* analysis, however, defines factual inquiries which maximize the objectivity of the adjudicatory process.

Starting with the same assumption, but applying the special combination test, a tribunal charged with determining the patentability of a combination has no reason to follow the *Graham* inquiries. The focus immediately shifts to the performance of the elements in combination vis-a-vis their functioning as individual elements apart from the combination. Since it is unnecessary under this approach to determine whether it would have been obvious to *combine* the elements to form the claimed subject matter as a whole, the evaluation of the mental state of the person of ordinary skill—a process mandated by *Graham* and required by § 103—is improperly ignored

The special test for combinations clearly, therefore, engenders a pattern of analysis different from that dictated by § 103 and *Graham*. Even worse, the ultimate legal conclusion required by the statute, i.e., the determination of nonobviousness or obviousness, cannot be drawn after subjecting a claimed invention to the combination test. Simply put, where the prior art reveals each of the elements of a claimed combination, the obviousness or nonobviousness of the invention, *i.e. the combination, should* turn on the obviousness or nonobviousness of *making the combination*, an issue precluded by the special combination test, which looks

solely to the operation of the elements *after* they are combined.[36]

2. The Special Combination Test Has No Rational Supporting Premise in the Context of the §103 Standard.

Since the special combination test required by some courts does not allow for a proper determination of obviousness or nonobviousness, it does not comport with the *Graham* mandate to apply §103. This Court should acknowledge that inconsistency and the resultant conflicts which necessarily arise in patentability adjudications. Moreover, in reviewing the special combination test, considerations in addition to its irrelevance to the §103 standard should be taken into account.

One necessary premise of a special test for combinations is that inventions exist which are *not* combinations.

Judge Learned Hand addressed this point on several occasions. In *Reiner v. I. Leon Co.*, 285 F.2d 501, 503 (2d Cir. 1960), *cert. denied*, 366 U.S. 929 (1961), he observed that:

> It is idle to say that combinations of old elements cannot be inventions; substantially every invention is for such a 'combination'; that is to say, it consists of former elements in a new assemblage.

His view had not changed over the fourteen year period between his opinion in *Reiner* and that delivered in *Safety Car Heating and Lighting Co. v. General Electric Co.*, 155 F.2d 937, 939 (2d Cir. 1946), wherein he stated:

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[36]*See* Note, *After Black Rock*, note 18 *supra*, 39 Geo. Wash. L. Rev. at 134.

> Substantially all inventions are for the combination of old elements; what counts is the selection, out of all their possible permutations, of that new combination which will be serviceable.

That is neither exaggeration nor sophistry. It is true. Scientists and engineers, no matter how brilliant, do not create without using elements, components, materials or techniques that are known.[37]

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[37]Professor C.E. Ayres, who has devoted a lifetime to the study of inventions and discoveries and their economic consequences, made the observation in somewhat greater detail and from another point of view:

> [T]here is no difference between 'mechanical' invention and 'scientific' discovery. Scientific discoveries also result from the combination of previously existing devices and materials, laboratory instruments and techniques. It was by combining a magnet with a Crookes tube, for example, that J.J. Thomason discovered that the steam of incandescence in the tube was in fact a steam of physical particles and was even able to calculate the mass of the electrons. It was by combining a prism with a telescope that astronomers were able to identify elements (such as helium) in the sun. Even in the fine Arts 'creation' comes about in the same way. Leonardo's great achievement illustrated by the famous Mona Lisa . . . was that he applied techniques which the monks had devised for the protrayal of angels to the portraiture of living subjects. Cezanne characterized his achievement as resulting from the application of Pissarro's studio technique to painting from nature, in every innovation analysis reveals the combination of previously existing devices. That is what the achievement is which in different fields we call invention or discovery or creation.

Ayres, C.E., *The Theory of Economic Progress* 115 (University of North Carolina Press, Chapel Hill (1944)). Ayres had earlier made the same point in *The Problem of Economic Order* 13, (Farrar & Rinehart, Inc. New York (1938)), as follows:

> Whatever the ingenuity of the individual inventor, an invention always results from the combination of pre-existing mechanical contrivances. No chemist, however

In the setting of an adjudication of patentability, especially civil litigation involving patent validity, the claimed subject matter can always be retrospectively examined in light of its component elements and the court or other tribunal shown the existence of those elements in the prior art. There is no imaginable situation in which the components of a combination have not separately and previously existed *in some context.* Even Dr. Seaborg's invention of the trans-uranium elements,[38] curium and americum, involved combinations of old or known elements – protons, electrons and the like. The adjudicating tribunal can always be apprised of these as part of the state of knowledge existing prior to the invention. But the inquiries *should* ultimately lead to decision as to whether given knowledge of the elements in their known contexts, in light of the prevalent skill in the art, combining those particular known elements in the manner of the invention, out of all other possible combinations which might be made, would have been an obvious thing to do. The inquiries *should not* center *exclusively* on the performance of elements *after* combination and without regard to the obviousness or nonobviousness of *making the combination.*

In *Reeves Instrument Corp. v. Beckman Instruments, Inc.*, 444 F.2d 263 (9th Cir. 1971), *cert. denied*, 404 U.S. 951 (1971), the McCoy patent, relating to computer technology, was contended by defendant to be a combination of old elements which is unpatentable under the special combination test. The court stated:

brilliant, could bring about a given chemical reaction if the substances of which it is the reaction did not exist, and no mechanical genius could apply the vacuum tube to wireless telephony if neither telephony nor wireless telegraphy nor vacuum tubes had been developed.

[38] *See In re* Seaborg, 328 F.2d 993, 996 (CCPA 1964).

Beckman's initial contention here is that the McCoy patent is somehow invalid on its face, without regard to the prior art, in view of Great Atlantic & Pacific Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147, 87 USPQ 303 (1950). Specifically, we are warned to scrutinize carefully those patents which include combinations of elements which are individually old in light of the alleged improbability of finding invention in such a combination. The argument is that the McCoy patent fails to satisfy the constitutional standard of patentability enunciated in A&P because the claimed invention consists of old elements (amplifiers, potentiometers, switches, etc.) which operate within the claimed combination in the same fashion as they have always operated in the prior art.

This argument fails on two grounds. First, it misconstrues the import of the A&P decision. Second, it suggests an analytical approach to patentability which is directly contrary to the statutory language of 35 U.S.C. § 103 which provides that the inquiry into patentability must be drawn toward the "subject matter as a whole" and not to the elements of a claimed combination and their individual novelty.

The claims in issue here, are, in statutory language, "machine" claims. They define a new "machine" which is composed of certain defined elements in combination. Carried to its logical conclusion, the argument here would result in a rule to the effect that A&P precludes the patenting of virtually every new mechanical or electrical device since the vast majority, if not all, involve the construction of some new device (or machine or combination) from old elements. [Footnote omitted].[39]

[39] 444 F.2d at 270.

In a footnote, the court added:

> Carried even further, there is doubt that anything would be patentable. Not only are all mechanical and electrical devices constructed of old elements but all chemical products are the result of combining known chemical elements. To continue to reduce patentability with a view toward uses of old elements would ultimately lead to the conclusion that those "inventions" which survive are unpatentable because they amount to no more than a discovery of something which already existed in nature. See Vitamin Technologists, Inc. v. Wisconsin Alumni Research Foundation, 146 F.2d 941, 63 USPQ 262 (9th Cir. 1944).[40]

The *Reeves* court construed *A. & P.* and *Black-Rock* as cases in which a holding of obviousness followed from the facts there present. However, other courts have found the special combination test to define the standard with which there must be compliance.

In addition to the unrealistic assumption that there may be combinations of other than old or known elements, it is evident that the special combination test is unworkable as compared to §103 nonobviousness. The requirement that the elements function differently in combination than they do individually is not only of little or no[40a] significance to a meaningful determi-

[40] *Id.* at 270 n. 4.

[40a] *Amicus* believes that, in fact, there is no such thing as an element functioning differently in combination than it did outside of the combination, e.g., a screw or an inclined plane will always function as a screw and inclined plane, respectively, alone or in concert with other elements. Assuming arguendo that there exists an exception to this belief, the new function should, nevertheless, *not* be a sine qua non to a finding of patentability but merely be taken as evidence to be considered along with the other evidence available in the obviousness/non-obviousness inquiry.

nation of obviousness or nonobviousness, but precludes consideration of evidence which *is* material to such a determination.

The realization of a new or different *function in* combination is different from the production of a new or different *result from* the combination. The latter, of course, is a significant factor in determining nonobviousness, as the Court effectively demonstrated in *Adams.* It was the totally new and different *result* produced by the Adams battery that led the Court to hold it patentably nonobvious *despite the fact that each element of the battery (every one of which was old) functioned in exactly the same way as it did in the prior art.* Indeed, the government's attack on nonobviousness attempted to exclude the new and different nature of the result and focused exclusively on the fact that each element was known and each functioned as taught by the prior art. The combination, the invention as a whole, was responsible for the startling result.

That the supposed special combination test would be a severe test is apparent from the *A.&P.* admonition that:

> Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements.

Amicus agrees that under such a special combination test, with its narrow criteria, so-called "combination" patents will not likely be found to be valid. The *A. & P.* admonition itself, regrettably resuscitated in *Black Rock,* must inevitably bias adjudicating tribunals against a finding of validity or patentability.

However, *Amicus* would strenuously disagree that under the § 103-*Graham* analysis, a finding of *nonob-*

viousness in so-called "combination" inventions is either more difficult or improbable. It is essential to recognize that all inventions can be dissected and characterized as composed of previously known elements; that the state of knowledge and levels of skill vary so that small modifications made in readily comprehendable technologies may, under a given set of circumstances, be totally unobvious, while seemingly large changes in a very sophisticated art may be quite obvious; and that the § 103 standard as elucidated in *Graham* provides a rational means of evaluating *all* inventions for patentability without regard to rhetorical characterization or unguided subjective conclusion.

For all of these reasons, the Court is urged to repudiate a special test for so-called combinations of old elements and to insist on the application of the single test announced in *Graham* to *all* inventions. Such direction by the Court will be a major step toward achieving the long-needed uniformity in patentability standards.

F. CONSIDERATION OF *ALL* EVIDENCE ENSURES A REASONED DETERMINATION OF OBVIOUSNESS OR NONOBVIOUSNESS.

The narrow focus of the special combination test inherently excludes consideration of evidence which might shed light on the nonobviousness or obviousness of a claimed invention – combination of known elements or otherwise, if such were possible. Moreover, as noted above, special rules developed in connection with the obsolete "invention" requirement expressly foreclose consideration of certain evidence.

Where the "invention" test was so totally subjective in nature, the evolution of specific rules was probably necessary to afford some tangible means of determining its presence or absence. In contrast, nonobviousness to one having ordinary skill in the art at the time the invention was made has intrinsic tangibility, and the probative value of different types of evidence under the individual circumstances of each case can be rationally assessed. There is, therefore, no need for *exclusionary* rules.

To the contrary, evidence of the state of a particular technology prior to the appearance of the invention and the reaction of the industry to the invention after its appearance may be of substantial assistance to the court in attempting to assess whether the skill of the art was such that the invention would have been obvious or nonobvious. As this Court has noted, such evidence:

> [M]ay also serve to "guard against slipping into use of hindsight," Monroe Auto Equipment Co. v. Heckethorn Mfg. & Sup. Co., 332 F.2d 406, 412 (1964), and to resist the temptation to read into the prior art the teachings of the invention in issue.[41]

As a result of his experiences, Judge Learned Hand also found such evidence to be of the greatest relevance in patentability determinations. His views were cogently summed up in *Safety Car Heating and Lighting Co. v. General Electric Co.*, 155 F.2d 937, 939 (2d Cir. 1946), as follows:

> In appraising an inventor's contribution to the art, as we have often said, the most reliable test is to look at the situation before and after it appears. Substantially all inventions are for the combination of old elements; what counts is the selection, out

[41] Graham v. John Deere Co., 383 U.S. at 36.

of all their possible permutations, of that new combination which will be serviceable. No objective standard is practicable: . . . as, for example, whether each of the elements operates in a different way from what it did in other combinations. That is almost never true of a machine; each member ordinarily performs the same mechanical function which it does in any other machine; it is their cooperation that produces the result, and the value of that cooperation depends upon the sagacity which divined the end and fabricated the means. Courts, made up of laymen as they must be are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar; and, so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention. Among these will figure the length of time the art, though needing the invention, went without it: the number of those who sought to meet the need, and the period over which their efforts were spread: how many, if any, came upon it at about the same time, whether before or after: and—perhaps most important of all—the extent to which it superseded what had gone before. We have repeatedly declared that in our judgment this approach is more reliable than a priori conclusions drawn from vaporous, and almost inevitably self-dependent, general propositions.

In many ways the problem is similar to situations when so-called "structurally obvious" chemical compounds *i.e.*, different but very similar structurally, are sought to be patented. It was asserted before the Court of Appeals for the District of Columbia in *Commr. Patents v. Deutsche Gold-und-Silver-Scheideanstalt Vormals Roessler*, 307 F.2d 656, (1968), that *Graham*

demanded that once an invention was determined to be "structurally obvious" that was the end of the matter. The court, in a clearly reasoned opinion, rejected this argument. The unexpected properties of the new compound supported the conclusion that those skilled in the art would not have found the new compound obvious.

Closeness structurally to the prior art or simplicity in concept can never tell the whole story on obviousness. For example, in the *Eibel Process* case,[42] the improvement in the Fourdrinier machine was really made when the reason for the limitation on the speed of the existing machine was understood. Raising one end of the machine some fifteen inches with respect to the other end was a small change, but it permitted a major increase in speed to be attained. Interestingly, in *Eibel Process*, the Court noted that, in the opinion of the lower courts, "The prior art and the obvious application of the principle that water will run down hill . . ."[43] precluded patentability. But like the Fifth Circuit in the present case, the Court recognized that Eibel was not trying to patent gravity. Moreover, that new discoveries follow the immutable natural laws of physics is not surprising. Balancing the totality of the evidence in *Eibel Process* led the Court to a more reliable conclusion of patentability than a bare bones view of the machine itself.

It would not be a new direction in the law for this Court to declare evidence of the foregoing nature to be of relevance. As pointed out above, that was the

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[42]Eibel Process Co. v. Minnesota & Ontario Paper Co., 261 U.S. 45 (1923).

[43]*Id.* at 52.

holding in *Graham*.[44] It is unfortunate that some courts have interpreted the Court's use, in *Graham*, of the term "secondary" in connection with these evidentiary matters to mean "of lesser importance." It is clear from the reference in the *Calmar* portion of the opinion to "subtests" of patentability that this is not what the Court meant.

The secondary considerations are secondary in time only.[45] As evidence they are necessarily not only primary, but may be the *only* evidence that can be derived on the issue of what is obvious to a person of ordinary skill in the art.[46] As recently stated in *Timely Products Corp. v. Arron*, _____ F.2d _____, 187 U.S.P.Q. 257, 261 (2d Cir. 1975):

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[44]Graham v. John Deere Co., 383 U.S. at 17-18, 36. *See* text accompanying notes 25-26, *supra*. *See also In re* Fielder, 471 F.2d 640 (C.C.P.A. 1973), and Rich, *Laying the Ghost of the "Invention" Requirement*, note 18, *supra*, 1 A.P.L.A.J. at 38-39, Appendix hereto at 13A-14A.

[45]Note, *After Black Rock*, note 18, *supra*, 39 Geo. Wash. L. Rev. at 142 n. 127, wherein the nature of the secondary considerations is described as follows:

> These evidentiary considerations are "secondary" in the sense that they occupy a different level in the hierarchy of legal and factual conclusions. Obviousness is the ultimate issue; the claimed invention, prior art and level of skill in the pertinent art, and difference between the prior art and claimed invention as compared to the level of skill in the art are all sub-issues preliminary to the determination of obviousness. To resolve the crucial sub-issues a court entertains factual evidence such as the claims, specification and file history of the patent, prior patents, publications and testimony of those skilled in the art *and* any other facts such as commercial success and long-felt need.

[46]See *Rich, Laying the Ghost of the "Invention" Requirement, note 19, supra*, 1 A.P.L.A.J. at 38-39, Appendix hereto at 13A-14A.

> In referring to such factors as 'secondary considerations' the Court surely did not intend to depreciate their importance, but only to indicate that they are to be considered *after* a preliminary determination of the precise subject matter at issue has been completed.[47]

Reaffirmation of the consideration of this type of evidence as it bears on the *Graham* factual inquiries and the determination of obviousness or nonobviousness in any given case is essential to rational development and application of the § 103 standard. *Amicus* offers no opinion of how those factors, to the extent they are raised, may weigh in the present case. However, the Court is urged to confirm that their significance must be considered before reaching a decision on obviousness or nonobviousness. The notion that any evidence can be ignored, as a general proposition, or that it suddenly becomes relevant only if patentability is otherwise in doubt, should be rejected as inappropriate to meaningful, rational and consistent application of the § 103 test.

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[47]The Second Circuit in *Timely Products* also noted:

> We can conceive of no better way to determine whether an invention would have been obvious to persons of ordinary skill in the art at the time, than to see what such persons actually did or failed to do when they were confronted with the problem in the course of their work. If the evidence shows that a number of skilled technicians actually attempted, over a substantial period, to solve the specific problem which the invention overcame and failed to do so, notwithstanding the availability of all the necessary materials, it is difficult to see how a court could conclude that the invention was "obvious" to such persons at the time. _____ F.2d at _____, 187 USPQ at 261.

By subjecting the patented invention here in suit to the *Graham* analysis and by considering all the evidence *before* reaching a subjective conclusion which might not otherwise fairly reflect the obviousness or nonobviousness of this invention to those of ordinary skill in the art at the time of the invention, this Court will take a major and needed step in the evolution, finally, of a uniform, reasonably predictable and, therefore, reliable patent law.

IV. CONCLUSION

Amicus urges no specific holding of validity or of invalidity of the patent in suit. It is the standard and approach to determination of patentability with which *Amicus* is concerned.

Amicus has pointed out that the courts and the Patent Office have available to them seriously divergent lines of analysis and inquiry from which to draw in attempting to assess patentability. Specifically, there is, on the one hand, the § 103 nonobviousness standard as embellished upon the well-reasoned *Graham* opinions and, on the other, the inconsistent combination of old elements test, which evolved during the pre-1952 "invention" requirement era. There are also the mutually exclusive lines of reasoning concerning the probative value of non-technical evidence which *Graham* recognizes to be indicative of nonobviousness, while other cases preclude consideration "in the absence of invention."

If the tests of patentability urged by Petitioner and *Amicus* Texas Farmers Union are adopted, the state of

the patent law will continue to be one of conflict and uncertainty, rather than rational and consistent analysis of patentability under the § 103 nonobviousness standard. The possibility will then clearly exist for adjudicating tribunals to reach totally subjective decisions respecting validity which can then be supported, after the fact, by one or the other of the inconsistent lines of analysis. This would be a most undesirable and harmful effect.

The Court can instead reaffirm § 103 nonobviousness as the sole operative test of patentability. Such a pronouncement by the Court in this case, coupled with the rejection of inconsistent standards of patentability, should finally set the patent law on the course toward a uniform and reasonably predictable standard of patentability.

Respectfully submitted,

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APPENDIX

APPENDIX A

LAYING THE GHOST OF THE "INVENTION" REQUIREMENT* BY JUDGE GILES S. RICH

The Subject

I am going to discuss §103 of Title 35 United States Code, the 1952 Patent Act, the unobviousness provision, because it is the heart of the patent system and the justification of patent grants. Why do I say that? For two reasons: *First*, it is §103 which brings about statutory *compliance with the Constitutional limitation* on the power of Congress to create a patent system, assuming novelty of the invention, of course, which is also necessary. (35 USC 101 and 102.) *Second*, it is the provision which assures that the patent grant of exclusive right is *not in conflict with the anti-monopoly policy* brought to this country from England by the colonists, long before our antitrust statutes, and that patent rights do not conflict with the policy of those statutes, which is to prevent odious monopolies and unreasonable restraints of trade.

Both compliance with the Constitution and avoidance of conflict with antimonopoly principles involve the same considerations: promoting progress in the technological arts while not interfering with the free use of technology which is fairly in the public domain. As I hope to make clear, §103 assures this result by allowing exclusive rights to inventors only when their inventions would not have been obvious to the ordinary workers in the field, preserving inviolate the common fund of technical knowledge which is obvious to the workers in the art. A time-limited exclusive right to subject matter which was neither known, nor obvious from what was known, *takes nothing from the public which it had before*. As a necessary corollary, the disclosure in a valid patent gives to the public knowledge it did not possess, actually or potentially, and thereby makes for progress.

It is worth remembering, furthermore, that we had a statutory patent system in this country for a century before we had a statute against monopoly. Antitrust law, therefore, should be so construed as to maintain a viable patent system. The 1952 Patent Act did sev-

*Substance delivered as a speech to: Los Angeles Patent Law Association Sept 18, 1972; San Francisco Patent Law Association Sept. 20, 1972; New Jersey and Philadelphia Patent Law Associations and Patent Section N.J. State Bar, October 12, 1972.

eral things to draw the line between patent rights and established anti-monopoly principles. The enactment of §103 was one of those things.[1]

I have written on this subject before and discussed it in innumerable opinions, as have my colleagues—long before the question got to the Supreme Court in 1966. In 1964 I wrote that I was discussing this subject because it was "the one I think causes the most trouble, the clarification of which I therefore believe would do the most good."[2]

In 1966, I felt that the Supreme Court had quite successfully clarified it. I am discussing it again because I and many others see that confusion remains rampant in the courts and has arisen even in the Supreme Court, which fact is creating even more confusion in the lower courts. It all seems so unnecessary and it is damaging to the patent system and discouraging to inventors, to whom we owe much, and that is bad for the country. It is even more discouraging to those who risk the investment to perfect and commercialize the inventions the inventors made and thus give the benefit of them to the public. Lawyers may thrive on confusion but businessmen like to know where they are at. Confusion in the law costs them money. That cost they pass on to the public.

So, once again, I address myself to the problem I think causes the most trouble in the sincere hope it may do some good.

I am not discussing §103 theoretically or on the basis of research into its "legislative history," as a young lawclerk would do today, twenty years after its enactment. I am doing it as one of its authors and, I believe, as the originator of one of its principal features. I hope a little of what I say will be remembered, because we who wrote it are gradually becoming an extinct species.

Of course, there are legal philosophers who would say it makes no difference what the authors intended, that §103 means what the courts say it means. Well, that is unhappily true. But what the courts are saying is conflicting and often wrong. While I live I shall therefore continue to tell the world what §103 was intended to mean and intended to do. Judge Learned Hand knew in 1955. My court found out in 1956 and has consistently acted on that knowledge

[1]Another one was the enactment of 35 USC 271(b) through (d) dealing with the case law problems of contributory infringement and patent misuse.

[2]"The Vague Concept of 'Invention' as replaced by §103 of the 1952 Patent Act," IDEA, Vol. 8 Conf. Number 1964, p. 136.

for sixteen years. The Patent Office has changed its practice accordingly. The Supreme Court found out in 1966 and approved. Yet today, although, according to the authors of *Patent Law Perspectives*, "each circuit in the United States has at least one case which properly comprehends the meaning of nonobviousness,"[3] opinions continue to issue in most circuits showing misunderstanding, confusion, and inconsistency. We have been in a state of transition in thinking for twenty years now, since the Patent Act of 1952, and it is high time we had uniformity of interpretation. My hope is to promote it.

The History

I think the best approach to a discussion of §103 is historical, to show what happened and why.

The United States patent system begins with the Constitution, behind which were centuries of foreign experience with inventions, monopolies, and patents that I shall skip. The Constitution empowered Congress to grant exclusive rights to inventors for their discoveries in order "to promote the progress of *** useful arts." *That is all it did and all it says on the subject.* Patents were the known way of granting exclusive rights.

The first Congress passed the first patent act in 1790. Under it patents were granted after a preliminary inquiry into patentability by a board. It was a pretty high-powered board. Thomas Jefferson was a member. By 1791 he had discovered that something was missing from the law; too many people were trying to patent trifles. So he proposed an amendment adding as a defense to a patent that "The invention is so unimportant *and obvious* that it ought not to be the subject of an exclusive right."[4] His proposal was never enacted—not for 161 years anyway.

Within three years the examination system as set up under the first patent act proved unworkable and the Act of 1793 was passed under which we went to a registration system for forty-three years. That too was unworkable and by the Act of 1836 we established the Patent Office and set up the essential features of our present examination system, under which applications for patent are examined against the prior art, as collected and classified by the Patent Office.

[3]Pat. L. Persp., 1972 Dev. §A.1[1]-63

[4]The Writings of Thomas Jefferson, 1788-1792 at 279, P.L. Ford Ed., Vol. 5 (1895). See Rich, *Principles of Patentability*, 28 Geo. Wash. L. Rev. 393, 403 (1960). For more on Jefferson see Graham v. John Deere, 383 U.S. 1, 148 USPQ 459 (1966), part II.

Still, the statutory law required only that the invention be new and useful and provided no *qualitative* measure of patentability for new inventions. Such a measure, though undoubtedly lurking in the law from an earlier time, was firmly grafted onto the statute in the form of case law by the Supreme Court in 1850 in *Hotchkiss* v. *Greenwood*, 52 U.S. 248, the famous doorknob case in which the court approved a charge to a jury that if the patented doorknob required "no more ingenuity or skill than was possessed by an ordinary mechanic acquainted with the business," the patent on it was invalid. The court further said that in such case the improvement was "the work of the skilled mechanic, not that of the inventor." Remember, the Constitution empowered Congress, if it wished, to secure exclusive rights to "inventors," not to just anyone. So, I suppose, that *could* be said to be a Constitutional limitation and that a "standard of patentability" is in the Constitution in that sense. But it should be obvious to any schoolchild that merely *calling* something an "invention," or its creator an "inventor," is no *standard* at all. It is merely a label, indicative of a judicial decision otherwise arrived at.

Another approach to finding a "Constitutional standard" seems to be based on the inherent limitation on the power delegated to Congress which is found in the words "To promote the progress of *** useful arts," which reasonably means that the conditions *Congress* imposes on the granting of exclusive rights to inventors must be such as will achieve that stated purpose. Since Congress does not grant the patents—the exclusive rights—but merely passes laws under which the administrative branch of the government grants them, it is the *laws* which must operate to achieve the purpose. In other words, the patent *system* Congress creates must achieve the purpose. This, clearly, is a limitation on the kind of system Congress can create. The gist of *Hotchkiss* v. *Greenwood* is that the Supreme Court, like Jefferson, sensed that Congress had not included in the statute a necessary limitation on the grant of patents and added that condition itself. This was judicial legislation. The Court added a *condition* but, as it turned out, it was not much of a standard, because it was too vague. The condition, as refined and sharpened in §103, creates a statutory system under which all patents granted pursuant to statute do serve to promote the progress of useful arts because, being for unobvious subject matter, they necessarily add to the sum of useful knowledge.

In any event, for the century following *Hotchkiss* v. *Greenwood* we had what was called the "requirement for invention," which, I emphasize, we have *not* had for the past twenty years. Instead we have §103.

The requirement for "invention" was at one and the same time a hard reality and a great mystery. Really, it was an absurdity. To be patentable, courts said, an invention had to involve "invention." If one asked for an explanation, the answer was, as the Supreme Court had pontifically announced in *McClain* v. *Ortmayer*, 141 U.S. 419, 427, in 1891, that "Invention cannot be defined." Only experienced patent lawyers, the Patent Office and judges knew what "invention" meant. You knew it by intuition, presumably from experience which, of course, judges passing on its presence or absence did not always have. The essence of being a patent lawyer or examiner—or a judge in a patent case—was to know an invention when you saw one yet there was no formal ordination. It was as easy as becoming a bird watcher. Judges, ex officio, were instant experts on the question.

As is usual with a doctrine derived from a court opinion, the doctrine persists and evolves while the facts of the case are forgotten. The words of the opinion of the first case are quoted in a second and embroidered upon, quoted again, and again reembroidered until after a century you have quite a body of so-called "law," or more properly *lore*, on the subject. Learned Hand, one of the great patent judges, summed it all up in 1955, saying to a Senate committee: "You could find nearly anything you liked if you went to the opinions. It was a subject on which judges loved to be rhetorical. *** patent lawyers *** like to quote all those things. There are lots of them." But, he said, "They never seemed to tend toward enlightenment."[5]

I think the height of absurdity appears in what is supposed to be our leading textbook, Walker on Patents, first Deller edition (1937, Vol. 1, p. 110): "An invention is the result of an inventive act." Various cases I could cite were equally mystical in explaining that patentable invention or just "invention" results from the exercise of the inventive faculty, creative skill, or inventive effort. One leading New York lawyer who had the temerity to argue to the Supreme Court in 1941 that the statute required only novelty and utility, which was so, and that the courts could not require more, was rewarded with an opinion which drove patent lawyers up the wall saying that to be patentable an invention had to be the result of a "flash of creative genius." (*Cuno Eng. Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84, 91.)

Since these conditions endured for over a century, the literature of

[5]Hearings pursuant to S. Res. 92, 84th Cong., 1st Sess., on the American Patent System, Oct. 10-12, 1955, p. 113, conducted by Senator O'Mahoney, Chairman, Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary.

patent law, the textbooks, the articles, the cases, are all saturated with talk about this requirement for "invention" or the "standard of invention" required to validate a patent. Nobody talked or thought in any other terms, though they were not definitive. What it all came down to, in final analysis, in the Patent Office or in court, was that if the Office or a judge was persuaded that an invention was *patentable* (after hearing all the praise by the owner and all the denigration by the opposition) then it *was* an "invention." How that decision was reached was rarely revealed. Everyone realized it was subjective.

Consequently, the requirement for "invention" became the plaything of the judiciary and many judges delighted in devising and expounding their own ideas of what it meant. This kind of mystical reasoning left the judiciary free to indulge their personal whims about patentability. Notwithstanding what the Supreme Court has said,[6] we went through periods of too much leniency and too much strictness, depending primarily, just as now, on what judges thought and the mood of country.[7]

In the depression and post-depression thirties and forties we were going through one of the strict periods. Pressure began to build up to curb the courts by statute. Some bills were introduced. Just at that time the Congressional committee in charge of codifying the various titles of the U. S. Code decided it would be a good idea to codify Title 35, the patent law. That enterprise got under way through what was called the Coordinating Committee, a group of about 30 lawyers from private, corporate, and government practice, which worked with the House subcommittee. I was a member of the Coordinating Committee and of its small Drafting Committee.

[6]"The standard has remained invariable in this court." *Graham* v. *John Deere Co.*, 383 U.S. 1, part V of opinion, last par. In the hearings referred to in note 5, supra, the synopsis of hearings, at page XX, reports as follows:

> Judge Hand stated that in the second circuit the judges have been frank to admit that within the last several years the Supreme Court has adopted a very much stiffer rule about what is invention, and this tendency has become more and more fixed.

[7]The shifting of attitudes by the courts was not limited to the question of what did or did not constitute "invention." As anyone familiar with the history of the development of patent law knows, through the years there were radical shifts in views on what the patent right encompassed. Compare, for example, *Henry* v. *A. B. Dick Co.*, 224 U. S. 1 (1912) with *Motion Picture Patents Co.* v. *Universal Film Mfg. Co.*, 243 U. S. 502 (1917) which expressly overruled it, each opinion being by a divided court. Compare also *Leeds & Catlin Co.* v. *Victor Talking Mach. Co.*, 213 U. S. 325 (1909), with *Carbice Corp. of America* v. *American Patents Dev. Corp.*, 283 U. S. 27 (1931), and *Mercoid Corp.* v. *Mid-Continent Investment Co.*, 320 U. S. 661 (1944). More recent shifts from what were considered established prerogatives of patentees are exemplified in such cases as *Lear* v. *Adkins*, 395 U. S. 653, 162 USPQ 1 (1969), and *Blonder-Tongue Labs., Inc.* v. *Univ. of Illinois Foundation* 402 U. S. 313, 169 USPQ 513 (1971). Currently, patent law seems to have no more stability than quicksand.

The time is now December 1950. The Coordinating Committee was then working over a draft patent act prepared by Mr. Federico of the Patent Office. In it was a section (§23, Committee Print) which, after revision, became §103. It was intended to put something in the statute to take the place of the purely case-law requirement for "invention" and it was based on several suggestions. It was an unobviousness provision, but, typical of the habitual thinking of the time, it was entitled "Conditions for patentability, lack of invention." As is now well known, the Drafting Committee forthwith changed the phrase "lack of invention" to "non-obvious subject matter."

In December 1950 the bar was far from unanimous in thinking that the statute should deal with the requirement for "invention," not even the members of the Committee agreed. There are always those who prefer the *status quo*, with which they have learned to live, no matter how ridiculous it may be. Now, it is very significant that what persuaded the Coordinating Committee to replace the case law with a statutory provision was the Supreme Court's opinion, and Mr. Justice Douglas' concurring opinion, published in the New York Times on the very day in 1950 the Committee was having a meeting, in the case of *The Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, 87 USPQ 303, (the "A&P" Case on the checkout counter). I am sure that is so because I remember reading the opinions aloud that day to the Drafting Committee. The *decision* may have been all right, but we considered what was said in the opinions to be typical of all that was wrong with the patent law's "invention" requirement.

I hope you note that I distinguish between decisions and opinions. It is very necessary to do so in the *stare decisis* system we have. What is it that is to stand, the decision on the facts before the court or everything it said? Many a sound *decision* is rationalized by atrocious reasoning in the *opinion*, often written by someone who does not know what he is talking about or what his words may be doing to the law. And that is where most of our trouble comes from today.

Let me now sum up for you the essential reasoning of the majority opinion in *A & P* which we determined to replace with a statute that hopefully made more sense. And my position is that Congress, enacting the Patent Act of 1952, *did* replace the *A & P Case* reasoning—not its decision on the facts—by substituting statutory for case law.

The *A & P* majority opinion found that the error of the District Court was that it found as a "fact" that *the invention was an inven-*

tion. The error of the Court of Appeals was that it, too, *perceived invention in the invention*. The problem the Court posed for itself was this:

> What indicia of invention should the courts seek in a case where nothing tangible is new, and invention, if it exists at all, is only in bringing old elements together?

That is to say, *the* invention before the Court was a combination—which practically all inventions are—and the *elements* of the combination all happened to be old, as elements usually are. The *combination* was *new*, but the Court apparently did not consider a new combination to be "tangible," which is like saying the *parts* of your watch are tangible, but the watch itself, as a distinct entity, is not. The Court's first big step toward solving its problem was to say:

> It is agreed that the key to patentability of a mechanical device that brings old factors into cooperation is the presence or lack of invention.

It then said that the invention must be examined for "invention"; that "The concept of invention is inherently elusive"; that courts must be cautious in affirmative definitions or rules on the subject. It found no "unusual or surprising consequences" from the new checkout counter at bar; that each element of the combination did only what one would expect it to do (which is what the gears, jewels, and hands of your watch do, or the transistors, capacitors, inductances, resistors and wires of your radio do); and that though the invention was "a good idea" it just wasn't patentable. The only defect which the Supreme Court could find in the concurring validity findings of the lower courts was

> ••• that a standard of invention appears to have been used that is less exacting than that required where a combination is made up of old components. It is on this ground (the court said) that the judgment below is reversed.

That reasoning is what clinched the decision to enact a statutory substitute that would make more sense, would apply to all kinds of inventions, would restrict the courts in their arbitrary, *a priori* judgments on patentability, and that, above all, would serve as a uniform *standard of patentability*. And so we come to 35 USC 103.

The Anatomy of §103

The first policy decision underlying §103 was to cut loose altogether

from the century-old term "invention." It really *was* a term impossible to define, so we knew that any effort to define it would come to naught. Moreover, it was felt that so long as the term continued in use, the courts would annex to it the accretion of past interpretations, a feeling history has shown to be well founded.

So §103 speaks of a condition of *patentability* instead of "invention". The condition is *unobviousness*, but that is not all. The unobviousness is *as of a particular time* and *to a particular* legally fictitious, technical *person*, analogous to the "ordinary reasonable man" so well known to courts as a legal concept. To protect the inventor from hindsight reasoning, the time is specified to be *the time when the invention was made*. To prevent the use of too high a standard —which would exclude inventors as a class and defeat the whole patent system—the invention must have been obvious at that time to "a person having *ordinary* skill in the art to which said subject matter (i.e., *the* invention) pertains." But *that* is not all; *what* must have been obvious is *"the subject matter as a whole."* That, of course, is the invention as defined by each patent claim. If, for example, a *combination* is claimed, §103 requires that to invalidate the claim, it must be shown that the *combination* was obvious, not merely its components.

As compared to finding or not finding "invention," §103 was a whole new way of thinking and a clear *directive* to the courts to think that way. Some courts and some lawyers do not yet seem to realize that.

Section 103 in the Courts—The "Codification" Question

Section 103 was sprung on a mentally unprepared world accustomed to thinking in terms of the requirement of "invention." After January 1, 1953, when the new patent act took effect, Courts by the dozen went merrily on in their old way invalidating patents for lack of "invention" and sustaining them because they found it. This I must blame in part on the lawyers who were also going merrily on in their old way, thinking and arguing on the basis of the old precedents. Some of them still do.

The first thing observable in the post-'53 cases was that many courts ignored §103 altogether, buying the argument that it was merely a "codification" of the old requirement, which they would therefore apply as they were accustomed to doing. They repeatedly held that no new test had been laid down. One of the troubles which hindsight now makes clear—but which was far from obvious at the

time—is that even we who wrote §103 did not fully realize the magnitude of the change in thinking §103 required—at least we did not realize it sufficiently to do a good job of selling it.

But there was at the time another reason for not trying to sell it as a major change which those who were not working on the project probably do not realize. The revision of Title 35 *was* primarily a codification project by a House codification committee and to get it enacted promptly without a long debate it had to be kept non-controversial. This had a profound effect on the way things were presented. It is not surprising, therefore, to find the House[8] and Senate[9] reports accompanying the bill, which were written primarily by Mr. Federico and which are almost identical, presenting §103 as placing in the statute a "condition" which, according to the reports, had "existed [in the law] for more than a hundred years" and as paraphrasing "language which has often been used in decisions of the courts"—which was literally true.[10] There were thousands of opinions on patentability *some* of which, like *Hotchkiss*, had in them ideas very similar to those in §103. But *A & P* was not such an opinion. The reports also say that "the section is added to the statute for uniformity and definiteness." Such statements and others made it arguable that it was just a "codification." But what does that mean? What is a codification? Do you follow the statute or ignore it; if you ignore it, why have it?

Codification is a loose term. It has been defined as the collection, condensation, systematizing and *reconciling* of what is scattered or *contradictory*. Yes, Title 35 as a whole is a codification; but it is also specifically and officially described as a codification *and revision*. An example of strict codification of case law is §102 (e) which put the rule of the *Milburn Case*, 270 U.S. 390 (1926), into the statute without change. An example of an outright change in prior law—revision—is §102 (d) under which a foreign patent granted on an

[8]82d Cong., 2d Sess., House Report No. 1923 to accompany H.R. 7794.

[9]82d Cong., 2d Sess., Senate Report No. 1979.

[10]Both the House and Senate reports contain this statement (p. 5 of House report and p. 4 of Senate report):

> Although the principal purpose of the bill is the codification of title 35, United States Code *** there are a number of changes in substantive statutory law. ***The major changes or innovations in the title consist of incorporating *a requirement for invention in section* 103 and the judicial doctrine of contributory infringement in section 271.

The emphasis is mine and I cite this as a prime example of the difficulty even some of those most intimately involved had in shaking off old ways of thinking and of expressing themselves. Section 103 was not a requirement "for invention," it was a substitute for it as the reports made clear in the discussion of §103 on p. 7 of the House Report and on p. 6 of the Senate Report.

application filed more than a year before the U. S. application bars the U. S. patent only if it issues before the U. S. *application* is filed, whereas formerly it was a bar if issued before the U. S. *patent* issued. Section 271 (a) is straight codification or restatement of existing case law which was entirely clear. But §271 (b)-(d) is codification of another sort altogether. A controversy had been raging in the courts over contributory infringement and misuse and these paragraphs were designed to put an end to it and to overrule certain decisions. Section 103 was of a similar nature except that the situation was different. It was a new statement of an old requirement of the law which was utterly uncertain and indefinite. The statute undertook to remove ambiquity and provide definiteness. Calling that a "codification" proves nothing. In the hope of making clear what §103 did, I will reformulate what I said about this in 1964:[11]

When, as was the case with the "requirement for invention," the century's accumulation of judicial precedents range from A to Z in strictness and Congress, looking at the situation under the guiding light of Kettering's statement that *this is no yardstick and the greatest technical weakness of the patent system*, determines to make a yardstick and says the measure shall be "M", right in the middle of the range, it behooves everyone concerned with administering that law to follow the measure "M" and to stop flitting about arbitrarily from A to Z, ignoring what Congress has done.

Hopefully, that clears up the "codification" question. Whatever you call it, the purpose was to substitute §103 for the requirement of "invention" and for all prior case law, including the *A & P Case*, even though *some* cases contained the same principles. It was to be statutory, not case law in the future.

On the point of §103 being "codification" it is interesting to consider the last sentence of the section which says "Patentability shall not be negatived by the manner in which the invention was made." The specific intent of that sentence, which courts universally accepted without question, was to overrule the *Cuno* case dictum that a "flash of genius" was necessary. One cannot call that "codification."

As above indicated, for the first few years courts were not heeding the statute, largely, I think, because the bar was not doing so. Judges tend to get the law from the winning party's brief. The very first judicial recognition of what was intended by §103 was Judge Learned Hand's opinion for the Second Circuit Court of Appeals in *Lyon* v. *Bausch & Lomb*, 244 F.2d 530, 106 USPQ 1, in 1955. He

[11]IDEA, Conf. No. Vol. 8, p. 145.

also understood the underlying reason for §103. He correctly stated in *Reiner v. I. Leon*, 285 F.2d 501, 128 USPQ 25 (1960), that it was "to change the slow but steady drift of judicial decision that had been hostile to patents •••".

When I came to the C.C.P.A. in 1956, three and a half years after §103 came into effect, I found it being totally ignored. That is not too surprising. The court was dealing with office actions several years old rejecting claims for lack of "invention" and the appellants' briefs, like those of the Patent Office Solicitor's, were still couched in those terms. It was probably in my first conference that I suggested that for some time we had had a statute that had put patentability on another basis which we should follow. One of the judges was incredulous. He said, "I thought if it is an invention it is patentable. Do you mean to say you can have an unpatentable invention?

Well, I can say again, what I said then; anyone who has ever made a search of the prior art to determine whether a client's invention is new knows that many inventions turn out to be old and hence unpatentable. They do not cease to be inventions because they have been made before. As I sometimes remind attorneys arguing cases, There is always *an* invention. What we are considering is its *patentability*."

Through the ensuing years that kind of thinking has totally disappeared in our court—but not everywhere. The persistence of the C.C.P.A. in following the statutory test gradually brought the Patent Office into line and after a few years I was told that the Patent Office Academy, which trains examiners, had swept the requirement for "invention" under the rug. We now rarely see a rejection in those terms in a record. But it was a slow transition.

Section 103 Reaches the Supreme Court

The Great Event, of course, was the Supreme Court's 1966 entry into the arena in *"The Trilogy"*, generally identified by the title *Graham* v. *John Deere* and including *Calmar* v. *Cook* and *United States v. Adams*, 383 U.S. 1, 39, 148 USPQ 459, 479. That was thirteen years after the effective date of the 1952 Patent Act.

All things considered, §103 fared well in the *Trilogy* from the point of view of its authors. It was held to be a constitutional exercise of legislative power. It was accurately construed in those two now familiar sentences (383 U.S. at 17):

> Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Except for the last step, determination of nonobviousness, which is a question of law and the ultimate determination of the court, these are factual inquiries, subject to proof by evidence. The first two, determination of the prior art and the differences from it which exist in the invention, are relatively easy to determine and prove with exactness. Level of ordinary skill is more difficult, more of a value judgment. Here is where judges have trouble and where they need help. Where do they get it? Well, maybe they will get some opinion testimony which isn't very persuasive; but the *best* evidence and the *most reliable* may be the *circumstantial* evidence.

"Secondary" or Circumstantial Considerations

If a man is observed coming away from the scene of a murder with a bloody knife or a smoking pistol, the evidence thereof may be more convincing than what he says. So it is if a competitor suddenly gives up his way of doing things and switches to the invention or, as in the *Adams Case* of the *Trilogy*, after pooh-poohing the invention and reporting that it won't work, the defendant adopts it and uses it successfully on a large scale. Well, what did the Supreme Court say about such evidence? It said (383 U.S. at 17-18):

> Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., [please note the "etc."; these are but exemplars] might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

Well of course they *do* have relevancy and the Supreme Court itself applied them in the *Adams Case*.

There is just one unfortunate word in that passage: "secondary." I don't think it should be given any weight though some courts seem to have done so, in effect, first deciding obviousness by visceral reaction and then saying that, having decided the issue, it is no longer necessary to consider the evidence—the best evidence—on the issue. This would be hard to explain except that in patent law there was an old rule—which also made no sense—that in determining "inven-

tion" one took commercial success into account only in *doubtful* cases, to tip the scales when they were otherwise evenly balanced. I sense that courts or lawyers transported that old thinking into their dealing with §103. If commercial success and similar circumstantial evidence was considered only in doubtful cases in determining "invention," why not the same rule in determining nonobviousness?

I do not believe the Supreme Court intended to signify anything by the term "secondary." It could equally have said "other considerations." It cited a law review note entitled "Subtests of 'Nonobviousness' ", not "secondary" tests. I suggest that in thinking about those "considerations" they be looked upon for what they factually are" *circumstantial evidence of unobviousness of the highest probative value*, unless there is some other explanation for the action. As a judge, if I were presented with a defense of obviousness and the evidence showed that the defendant, long knowing about a problem in his product or his manufacturing process for which he had found no solution, changed over to use his competitor's patented invention as soon as he heard of it, I would not call that evidence "secondary" and ignore it in considering his argument that it was an obvious invention. I would think as did Learned Hand (*Safety Car Heating and Lighting Co.* v. *General Electric Co.*, 155 F.2d 937, 939) in 1946 that:

> In appraising an inventor's contribution to the art *** *the most reliable test* is to look at the situation before and after it appears. *** Courts, made up of laymen as they must be, are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar; and, so far as it is available, they had best appraise the originality involved by the *circumstances* which preceded, attended and succeeded the appearance of the invention. *** We have repeatedly declared that in our judgment this approach is *more reliable* than a priori conclusions drawn from vaporous, and almost inevitably self-dependent, general propositions. (My emphasis).

Yet we have such ludicrous and self-contradictory court of appeals statements as this in *Westwood Chemical, Inc.* v. *Owens-Corning Fiberglas Corp.*, 171 USPQ 1, 6 (6th Cir. 1971):

> *** secondary indicia of nonobviousness are relevant and become supplementally useful only where there is a *close* question of whether the subject matter of an invention was obvious

> [citing two cases, one from another court of appeals]. These secondary considerations, *no matter how persuasive*, cannot save the patentability of an invention when it clearly appears, as in this case, that the invention was obvious to one skilled in the art. [My emphasis.]

How can anything be clear when even the most persuasive evidence is ignored? Until all the evidence has been considered, how does a court know it is a close question?

Here is an even later example in 1972, still harking back to the "invention" requirement, *Hewlett-Packard Co.* v. *Tel-Design, Inc.*, 174 USPQ 140, 144 (9th Circuit):

> We turn, then, to the secondary indicia of patentability relied on by the district court [which was reversed]. The district court found that the fact that the Anderson patent [meaning the Anderson invention] did not fail to fulfill a recognized need in the industry and enjoyed commercial success was at least important in the determination of nonobviousness. However, this court and others have repeatedly held that such secondary considerations cannot make patentable a patent [meaning an invention] which [patent] is invalid *for lack of invention*. Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, 87 USPQ 303 (1950). [Emphasis added and citation of six more cases omitted.]

If courts cannot keep in mind the difference between an invention and a patent, it is perhaps not surprising that they cannot distinguish §103 from the old requirement for "invention." Understanding the terminology one is using is half way to clear thinking on most any subject. Lack of understanding is not compensated for by citation of precedents.

The most important question answered in *Graham* was whether §103 replaced "invention" as a test for patentability, so that it is legally dead. The answer is "Yes." The circumstantial evidence of this is that in the three cases of the *Trilogy* the Supreme Court applied no other test, deciding the validity of the patent in each case according to the obviousness inquiry specified in §103. But specifically the Court made these unequivocal statements after reviewing the evolution of the "invention" requirement and taking note of the variety of opinions as to its meaning which had evolved. These are the things the Court said (383 U.S.):

• • • •

> The section is cast in relatively unambiguous terms. (p. 14)

> Congress has emphasized 'non-obviousness' as the operative test of the section, rather than the less definite 'invention' language of Hotchkiss ***. (p. 14)
>
> • • • •
>
> *** the §103 additional condition, when followed realistically, will permit a more practical test of patentability. (p. 17)
>
> • • • •
>
> We believe that strict observance of the requirements laid down here will result in that uniformity and definiteness which Congress called for in the 1952 Act. (p. 18)

The Court then commented on the alleged discrepancy between the standards applied in the Patent Office and in the courts and critically observed that the discrepancy

> *** may well be the free rein often exercised by examiners in their use of the concept of 'invention'. (p. 18)

Finally, the Supreme Court opinion admonished both the Patent Office *and the courts*

> *** that the inquiry which the Patent Office and the courts must make as to patentability must be beamed with greater intensity on the requirements of §103***. (p. 19)

The Patent Office is no longer a problem but there are still courts that seem not to have gotten the word.

The Settled Becomes Unsettled

In concluding this discussion, I will say just a few things about the conventional wisdom regarding so-called "combination patents." This brings me to *Anderson's-Black Rock* v. *Pavement Salvage Co.*, 396 U.S. 57, 163 USPQ 673 (1969), and takes me back to the *A & P Case*. Space precludes a full discussion and it was all done in "After Black Rock: New Tests of Patentability—The Old Tests of Invention", by Mintz & O'Rourke, 39 Geo. Wash. L. Rev. 123 (Oct. 1970). I just want to give you my impressions of the kind of a mess we are in, why we are in it, how ridiculous it all is, and how simple the solution can be.

As I said, the two decades since 1952 have been a period of transition in thinking. A century of habitual and thoroughly imbedded thought about the mysterious "invention" requirement is being slowly but surely supplanted by the unobviousness requirement of

the statute and the process of inquiry there prescribed for its determination. But old ideas die hard. Pasteur had a difficult time persuading people germs caused disease and that germs did not result from spontaneous generation. We are still far from being shed of the "invention" requirement. A habit, after all, is a habit.

Three years after the *Trilogy* came *Anderson's-Black Rock. Patent Law Perspectives*, that unique, up to the minute, critical, professional and professorial review of current goings on in patent law, in the 1969-70 annual review (§A.1[1]-1), regards Justice Douglas' *Black-Rock* opinion as

> *** asserting the proposition that the doctrines of both *A & P* and the *Trilogy* are to be viewed as alive, vital and jointly operative as if they are cooperative legal entities rather than the essentially inconsistent propositions of law which they are.

Mintz and O'Rourke, *supra*, as young lawyers often do, overreact to *Black Rock* as undoing *Graham* and reverting to the old "invention" test. I do not see *Black Rock* that way and I do not believe any court carefully reading both opinions will do so either. The two opinions *are inconsistent*, at least in some of the language used, but *Graham* is the more carefully reasoned and *Black Rock* contains not one iota of criticism of *Graham*, from which it quotes approvingly. The language in *Black Rock* which people deplore obviously comes from a mind thoroughly steeped in the old "invention" lore and which has not succeeded in making a complete transition to the new statutory situation.

Much depends on where you put the emphasis. *Black Rock* says, after all,

> In this case the question of patentability of the combination turns on the meaning of 35 U.S.C. §103. (p. 61)
>
> We conclude that *** the use of the old elements in combination was not an invention by the obvious-nonobviousness standard. (p. 62)

That is not absolute heresy even to an author of §103. If it had said it was not *a patentable* invention instead of not "an invention" it would have been unexceptionable. The summary conclusion of the Court was that "the combination was reasonably obvious to one with ordinary skill in the art." To say in addition that the combination was not an invention is a bit superfluous and also a bit old fashioned.

Now what was the dictum in *Black Rock* that bugs people? Well, it was the very idea expressed in *A & P* which stimulated the enactment of §103 to supplant it, but which, unhappily, is still current dogma in some courts, namely, that inventions which are a combination of old elements must be tested for patentability (formerly for "invention" now for unobviousness) by an extra severe test—more severe than the test for inventions of other kinds. *A & P* spoke of the "difficulty and improbability of finding invention in an assembly of old elements" and said the whole must in some way exceed the sum of its parts to produce unusual or surprising consequences. That is the "severe test." It was indeed severe—it was an impossible test, so §103 was enacted to replace it.

Justice Douglas in *Black Rock* looked for a "synergistic result" by which he seems to have meant an effect greater than the sum of the several effects of the elements of the combination taken separaely. I suggest to the reader that he look up "synergistic" in the dictionaries.

Congress in §103 threw down the gauntlet to these notions by substituting a different test—the obviousness test—applicable to all inventions alike. Since then no justification can be found for treating one kind of invention differently from another.

There is a enormous flaw in the reasoning supposed to underlie the *A & P* test, however, in that almost *all* inventions are combinations of elements, generally all old elements. This is not a new idea. Learned Hand said it in 1960, *Reiner* v. *I. Leon*, supra. Even Dr. Glen Seaborg's new trans-uranium *elements*, which the C.C.P.A. approved patenting in 1964 (*In re Seaborg*, 51 CCPA 1105, 1109, 328 F.2d 993, 996, 140 USPQ 659, 662) were new combinations of old components—protons, electrons, and the like. New chemical compounds, which pass through our court in a steady stream, are combinations of necessarily old elements, all of course known, rearranged in new molecules.

As for synergism, I don't know what Justice Douglas meant by it as applied to mechanical devices. Etymologically the term derives from the Greek, *syn*, together, and *ergon*, work; working together, which the parts of all mechanical devices do. Outside the courts, the term is not used in the field of mechanics, but rather in the chemical field where a synergist is a material which enhances the remedial efficiency of a therapeutically active agent or the effectiveness of an insecticide or similar biological agent. But even if we look at the mechanical field and try to apply the plain meaning of synergism—working together—does it mean anything more than that two men on a rope can move a load neither can budge alone, that rope and pulleys combined enable one man to lift more than he can lift alone, and that a wedge and a sledge will split a log which neither will do alone? Is the concept any more esoteric than that soap and water produce results neither produces by itself? Unless synergism is so interpreted, I doubt that any trial lawyer, ever, is going to be able to meet the "strict test" implicit in the following two unfortunate sentences of *Black Rock* dictum:

> A combination of elements may result in an effect greater than the sum of the several effects taken separately. No such synergistic result is argued here. (p. 61)

The laws of physics and chemistry in accordance with which all inventions perform do not permit of the judically imagined magic accordingly to which 2+2=5. Wherever such a spurious test prevails all patents are invalid. And there are those who think that is heaven.

I do not believe the Supreme Court sees the inconsistencies between *Graham* and *Black Rock* that get patent lawyers so excited and I think that if it ever has to resolve the matter it will stick with *Graham* and say—for face-saving reasons—that *Black Rock* is really to the same effect.

I remember how the bar got so excited about the flash-of-genius case—*Cuno*, supra, cigar lighter, 1941, opinion by Mr. Justice Douglas, two justices concurring in the result—and how in the very next case, *Sinclair & Carrol*,[12] printing ink, 1945, opinion by Mr. Justice Jackson, Justices Douglas and Black concurring in the result, the Court effectively backed down saying it was "not concerned with the quality of the inventor's mind, but with the quality of his product." The Court is not going to admit to inconsistency if it can help it, witness *Graham's* impassioned insistence that for over a century the Court has applied exactly the same standard of patentability. Who can prove it hasn't?

What do you do with such a situation? There is no finer example of what to do than what the Ninth Circuit Court of Appeals did last year in *Reeves Instrument Corp.* v. *Beckman Instruments, Inc.*, 444 F. 2d 263, 170 USPQ 74 (1971). It applied §103 in accordance with its terms and the reasoning of *Graham;* it answered the argu-

[12] *Sinclair & Carroll Co.* v. *Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

ment that the patent was invalid for failure to meet the *A & P* test by saying that that contention suggests an analytical approach directly contrary to §103 which, carried to its logical conclusion, would preclude the patenting of virtually every mechanical or electrical device since they are all combinations of old elements; it reduced *Black Rock* to its proper size by ignoring the rhetoric and regarding it merely as a simple obviousness decision coupled with a reaffirmation of *Graham;* and, finally, it treated the factual evidence of the "secondary considerations," referred to in *Graham,* as of primary importance demonstrative of unobviousness under §103:

Patent Law Perspectives[13] called the *Reeves* opinion "One of the finest judicial treatments of the law of nonobviousness ever written •••." Now that is another kind of heaven.

Dum spiro, spero![14]

[13] I am told the publisher is about to supply copies of this publication gratis to all Courts of Appeal and a dozen or so District courts with heavy patent dockets.

[14] "While I breathe, I hope!" (Editor's note)

MOTION FILED

DEC 5 1975

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-110

BERNARD A. SAKRAIDA,
Petitioner,

versus

AG PRO, INC.,
Respondent.

MOTION FOR LEAVE TO FILE BRIEF AMICUS CURIAE AND BRIEF AMICUS CURIAE OF THE TEXAS FARMERS UNION

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The Texas Farmers Union, of 800 Lake Air Drive, Waco, Texas 76710, respectfully moves under the provisions of Rule 42(3) for leave to file a brief amicus curiae in order to present information and arguments generally supportive of the petitioner in this case which complement and supplement the petitioner's brief, but are not presented therein and which, moreover, will not be presented by respondent or any amicus that may support respondent. Consent to the filing of this brief has been granted by petitioner's counsel, but refused by respondent's counsel.[1]

---

[1] A letter from petitioner's counsel consenting on petitoner's behalf to the filing of the brief is understood to be in the mail and will be lodged with the Clerk promptly.

The movant Texas Farmers Union is comprised of approximately 7500 members primarily engaged in operating family-size commercial farms in the State of Texas with heavy concentration in its Great Plains area. These farmer members of the union engage in raising grain, cotton, livestock feed crops and livestock, including beef cattle, dairy cattle, goats, sheep, etc. These farmers, and especially those who are engaged in dairy farming, are among the segment of the public that would be directly affected if the patent involved in this case were upheld. Hence, the Texas Farmers Union is directly concerned in insuring correct adjudication of the issues of the case. A more detailed statement of the reasons why the Union wants to be heard appears in the section entitled "interest of the Amicus Curiae" in the appended brief and is incorporated herein by reference.

The material presented by the Union in the appended brief which will not be presented by petitioner includes (a) a full discussion of the history and purpose of the constitutional standard for patentable invention now codified in 35 U.S.C. 103 and its relationship to so-called "aggregations" of old and well-known elements; (b) a discussion of various factors which contribute to the continuing failure of the United States Patent Office to apply the constitutional standard of patentable invention codified in 35 U.S.C. 103 in refusing the grant of patents, including the influence on that Office of the "overruling" of key decisions of this Court by the Court of Customs and Patent Appeals; (c) a description of post-1966 legislative developments relative to § 103, demonstrating that Congress has refused to adopt a legislatively denigrated standard of invention, and (d) a development of the public policy underlying the patent system which disqualifies any interpretation of Rule 60(b) in patent cases that would result in fostering enforcement against the public of constitutionally and statutorily invalid patents.

Because the Union believes that the arguments presented in the appended brief are of major importance to the correct adjudication of this case, the Court is requested to receive and consider it.

Respectfully submitted,

MARY HELEN SEARS
Attorney for Amicus Curiae

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Respondent.

BRIEF AMICUS CURIAE

INTEREST OF THE AMICUS CURIAE

The Texas Farmers Union of 800 Lake Air Drive, Waco, Texas 76710 is composed of approximately 7500 members who are primarily engaged in operating family size commercial farms in the State of Texas, and especially in its Great Plains area. The members of the union engage in raising grain, cotton, livestock feed crops and livestock, including beef cattle, dairy cattle, goats, sheep, etc.

The union and its members are concerned that farmers, and particularly farmers engaged in family size enterprises which generally operate on very low profit margins, not be subjected to the toll of flimsy, spurious

and invalid patents of the ilk of patent 3,223,070. Because the particular dairy barn system claimed in that patent—which involves as its "crucial element" the release of a sheet of water from a pool by a conventional sluiceway to sweep cow manure off a dairy barn floor—would find practical application only in a relatively mild climate where severe, subfreezing winter temperatures do not occur, such as that of, *e.g.*, Texas or California, the Texas Farmers Union is specifically interested in seeing that patent correctly adjudicated. In addition, it is self-evident that if this Court should erroneously reach the conclusion that dairy farmers are to be subjected to the expensive toll of this patent of obviously minimal technical merit, similar structures particularly adapted to the needs of livestock other than dairy cattle will soon also be made the subject of equally nonmeritorious patents—with concomitant hardship upon the family farming community.

In its opinion in *John Deere & Co.* v. *Graham*, 333 F.2d 529, 535 (1965)—an opinion later affirmed by this Court in *Graham* v. *John Deere Co.*, 383 U.S. 1 (1966)—the Eighth Circuit pointed out that the public "is a silent but an important and interested party in all patent litigation and is entitled to protection against the monopolization of what is not lawfully patentable". This union desires to be heard in this case as a representative of the interested segment of the public, to present a full exposition of the history and purpose of the constitutional standard for patentable invention now codified in 35 U.S.C. 103 as it applies to alleged inventions constituting mere combinations of old and well-known elements each of which functions in its known and conventional manner.

In addition, the union presents information concerning the activities by the Court of Customs and Patent Appeals and the Patent Office in implementing a standard of patentable invention approaching novelty, which have

continued apace even after this Court's decision in *Graham*, *supra*, disapproved the indiscriminate grant of nonmeritorious patents that fail to meet the constitutional invention standard. Information is also presented concerning the refusal of Congress to lower the invention standard legislatively. The union also develops the compelling public policy reasons for interpreting Rule 60(b) in patent cases so as to insure presentation of all facts that tend to show the infirmities of a particular patent monopoly, whether or not developed post-trial.

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Article I, Section 8, clause 8 of the Constitution provides:

> "The Congress shall have Power
>
> • • • •
>
> "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;"

35 U.S.C. 103 provides:

> "§ 103. Conditions for patentability; non-obvious subject matter
>
> "A patent may not be obtained though the invention is not identically disclosed or described, as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior are are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

STATEMENT OF THE CASE

The Fifth Circuit Court of Appeals, reversing a trial court holding

> " '* * * that said [Gribble and Bennett] Patent No. 3,223,070 held by Plaintiff does not constitute invention, is not patentable, and is not a valid patent, it being a combination patent, *all of the elements of which are old in the dairy business, long prior to 1963 and the combination of time [sic them] as described in the said patent being neither new nor meeting the test of non-obviousness*, Defendant is entitled to judgment' "[1] (Pet. 10a)

has held valid a patent for a dairy barn flushing system which admittedly "does not embrace a complicated technical improvement" (Pet. 22a) but allegedly "does achieve a synergistic result through a novel combination" (*ibid*) —an ultimate conclusion apparently premised on the appellate court's own assessment that "The little expert testimony at trial supports the conclusion that the system was initially viewed with disbelief" (*ibid.*)

In the Fifth Circuit's own words

> "The patent is limited to the construction and arrangement of the floor areas of the barn and the means for storing a volume of water on or immediately above the floor so that, when the water is suddenly released, it will clean all of the barn floor areas without the use of hand labor. According to the letters patent, all barn floor areas can be thoroughly cleaned in a very few minutes, where previously it took hours of labor and use of larger quantities of water to achieve an inferior result. The patent contains three claims, but only Claims 1 and

[1] Unless otherwise indicated, all emphasis in quotations herein is added.

> 3 [footnote omitted] are here involved. (App. 18). In simplified form, those two claims call for a dairy barn having the following elements:
>
> (1) a paved, sloped barn floor with downhill drains;
>
> (2) individual cow stalls elevated above floor level but designed to facilitate accumulation of cow excrement on the dairy floor;
>
> (3) paved feeding and milking areas integrated into the flush system;
>
> (4) a dam which collects water in a pool uphill from or directly on the dairy floor and abruptly openable to send a sheet of water cascading through the dairy sweeping the manure to the downhill drains.
>
> *Admittedly, all the elements are old.* However, prior to this patent, the concept of a controlled sheet of water to do the scouring and washing of the floor had not been used in barn construction.[2] The prior art involved the use of spot delivery of water by high pressure hoses. None of the prior art documents shows a floor washing means constructed to collect a pool of water uphill from or on the floor so that, when the water is abruptly released, it will flow as a sheet to wash almost instantaneously all barn floor areas and discharge cow offal into drains. That is the crucial element of this patent." (Pet. 10a-12a).

In short, the patent covers the use of a convention weir dam or sluiceway arrangement in an otherwise conventional sloped floor dairy barn equipped with drains

[2] This assertion *ignores* the *admission* of respondent's counsel in his opening remarks at the September 13, 1971 trial that the use of water as a "flushing agent" to remove manure deposits from cattle barns dates back *at least* to ancient Greek civilization which credited the aprocrypal Hercules with such use in his cleaning of the Augean stables. See A. 57.

positioned at the bottom of the slope, the purpose of the dam being equally conventional—i.e., to accumulate water in a pool behind the dam and then to release the water in a surging cascade or sheet when the weir closure or sluice is opened.

It is the type of simple "combination" device that human beings routinely construct by merely juxtaposing old parts in an expedient manner, whenever it seems desirable or appropriate to do so.

ARGUMENT

The patent in suit epitomizes two seemingly perpetually recurrent blemishes on the operation of the patent laws—to wit:

(1) the obdurate failure of the United States Patent Office to exercise its "primary responsibility for sifting out unpatentable material" either by following this Court's admonition "to adhere strictly to the 1952 [Patent] Act as interpreted" by this Court in *Graham* v. *John Deere Co.*, 383 U.S. 1 (1966) and *Anderson's Black Rock* v. *Pavement Salvage Co.*, 396 U.S. 57 (1969) or by taking cognizance of "changed conditions" resulting from the "remarkable rapidity" of technological advance over the last half century,[3] and

(2) the equally determined disinclination of the Fifth Circuit Court of Appeals to comprehend and follow the acknowledged "basic standard" (Pet. 16a) of *Hotchkiss* v. *Greenwood*, 52 U.S. (11 How.) 248 (1850) codified in 35 U.S.C. 103 and carefully explicated by this Court in *Graham*, *supra*.

The Patent Office breakdown is of particular concern. The agency was created by Congress in 1836 to remedy

[3] All quotations in this paragraph are from *Graham*, *supra*, 383 U.S. 1 at 18-19.

the evils perpetrated in the name of patents under the 1793 Patent Act by insuring that nonmeritorious patents would be refused at the threshold in lieu of spawning troublesome, expensive and unproductive litigation in the courts. As said in the Senate Report accompanying the implementing legislation:

> "The present law waits till infringements and frauds are consummated—nay, it even aids them; and then it offers an inadequate remedy for the injury, by giving an action for damages. It ought, rather, by refusing to grant interfering patents, to render prosecutions unnecessary. Instead of sanctioning the wrong by granting the privilege to commit it, it should arrest injury and injustice at the threshold, and put an end to litigation before it begins."[4]

Far from putting "an end to litigation before it begins", Patent Office operations as conducted today involve the implementation of a standard of patentability that approaches mere novelty[5] and the concomitant indiscriminate issuance of ever-greater number of trivial patents, which in turn clog the courts with frequent and pointless litigation.[6] Saying that "To await litigation is—

[4] See S. Rep. No. 338, 24th Cong., 1st Sess. 6 (1836), reprinted in its entirety at 34 J. Pat. Off. Soc'y 853 (1953).

[5] See Marquis, *Improving the Quality Control for Patents*, 59 Minn. L. Rev. 67, 104 (1974) who proposes Congressional legitimatization of patents on merely novel subject matter as a cure-all and the rebuttal by Sears, *Tinkering With the Invention Standard: No Solution To Problems of Patent Quality*, 59 Minn. L. Rev. 965 (1975); see also Sears, *One Litigation Lawyer's View of Ex Parte, Secret Patent Procedures*, 2 APLA Q.J. 242, 251 (1974) proposing that anachonistic *ex parte*, secret prosecution be replaced by an open, *inter partes* procedure in which all interested members of the public could participate.

[6] The reply brief in *Calmar, Inc.* v. *Cook Chem. Co.*, No. 37, October term, 1965, heard and decided with *Graham*, 383 U.S. at 26-37, noted at p. 8 "the manifest proclivity of the Patent Office for

for all practical purposes—to debilitate the patent system", 383 U.S. at 18, this Court in *Graham* recognized this sorry state of Patent Office operations and as noted *supra*, p. 6, urged strict adherence to the Patent Act as interpreted in this Court. The very existence of the patent in suit is eloquent testimony that the Patent Office has still not changed its course in the ten years since *Graham*.

The Patent Office allowance in this case of Gribble and Bennett patent 3,223,070 for a combination of old and well-known mechanical elements, each of which performs its known function in an old and recognized way in the combination, is tantamount to granting a patent on the symbolic "better mouse trap" in direct derogation of *Graham*.[7]

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issuing patents on any trivial device or trivial modification of a device on which there is not the most direct of anticipations." and cited in a footnote statistics showing that such Office granted patents on 68% of applications filed in fiscal 1965 and anticipated an increased percentage in fiscal 1966, approaching a number in the order of 67,000 patents, at that time "the approximate limit of the Government Printing Office to print patents".

Statistics published by the Bureau of National Affairs in its weekly Patent, Trademark and Copyright Journal on September 13, 1973 covering fiscal 1971 showed that 75-80% of the patent applications filed in this country matured into patents, as contrasted with 30-35% in West Germany and 40% in Japan in the same period.

On March 10, 1975, the Washington Star, § A at 1, col. 1, reported that "last year" the Patent Office received 103,979 applications and granted 78,898 patents.

Patents of commercial importance, however trivial they may be from a technological point of view, are almost always litigated. Recent statistics show that at least 50% and probably nearer 75% of litigated patents are ultimately held invalid. See Kayton, *The Crisis of Law in Patents*, pt. I, at 5 and app. 2 at 13-14; see also "Patent Law Revision", 93d Cong., 1st Sess. (1973) at 196-273.

[7] As the Court put it, "He who seeks to build a better mouse trap today has a long path to tread before reaching the Patent Office", 383 U.S. at 19. The whole Court thus echoed the sentiments of former Justice Douglas and the late Justice Black, concurring in

The Fifth Circuit, feigning total confusion as to the standing of patentable invention under 35 U.S.C. 103, says that "Although the Court in *Graham* clearly rejected the Fifth Circuit rationale that an invention is patentable when it produces an 'old result in a cheaper and otherwise more advantageous way' what precise test, if any, that Court substituted is unclear" (Pet. 21a). The Fifth Circuit thus effectively confesses its own adherence for some 115 years after this Court in *Hotchkiss*, *supra*, one justice dissenting, expressed flat disapproval to the proposition "if the invention was cheaper and better than what preceded it, that protection should be given to it as patentable . . .", 52 U.S. (11 How.) at 268 (dissenting opinion). Despite its occasional lip service, as in this case, to "the condition that a patentable invention must evidence more ingenuity and skill than that possessed by an ordinary mechanic acquainted with the business . . ." (Pet. 16a) laid down by the *Hotchkiss* majority, the *Fifth Circuit does not follow* that standard of patentable invention. It is accordingly totally out of step with this Court's own unvarying application of the standard which is constitutionally derived and has been implemented since Thomas Jefferson's activities as a member of a three-man board that administered the first Patent Act of 1790. YES 12/15/75

I. The Unvarying Constitutional Standard

The *Hotchkiss* prohibition upon the grant of patents for alleged inventions produced by exercising ordinary skill in the adaptation and application of old knowledge has been consistently perceived in this Court to derive from Article I, § 8, cl. 8 of the Constitution itself. See *Hollister* v. *Benedict & Burnham Mfg. Co.*, 113 U.S. 59, 73 (1885); *Thompson* v. *Boisselier*, 114 U.S. 1, 11

Great A & P Tea Co. v. *Supermarket Equipment Corp.*, 340 U.S. 147, 156-158, regarding the "incredible patents which the Patent Office has spawned" over the years and calling for an end to their proliferation.

(1885); *Hill* v. *Wooster*, 132 U.S. 693, 701 (1890); *Cuno Eng'r Corp.* v. *Automotive Devices Corp.*, 314 U.S. 84, 91 (1941); *A & P*, *supra*, (concurring opinion); *Graham*, *supra*, *Anderson's Black Rock*, *supra*.[8]

As this Court has also recognized, such manifestations of mere ordinary skill *do not* and *could not* "promote the progress of science and useful arts". As explained by this Court in *Atlantic Works* v. *Brady*, 107 U.S. 192, 200 (1883):

> "The design of the patent laws is to reward those who make some substantial discovery or invention, which adds to our knowledge and makes a step in advance in the useful arts. Such inventors are worthy of all favor. It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities of lawsuits and vexatious accountings for profits made in good faith."[9]

[8] For a detailed discussion of the history of this constitutional standard, see Irons and Sears, *The Constitutional Standard of Invention—The Touchstone for Patent Reform*, 1973 Utah L. Rev. 653.

[9] In *Mahn* v. *Harwood*, 112 U.S. 354, 358-9 (1884), this Court pointed out that the "valid defense" to an infringement suit of whether "the Commissioner has exceeded his authority" in granting

The need for distinguishing meritorious and patentworthy inventions from mere exercises of ordinary skill arose in the context of the earlier Congressional efforts to implement the constitutional patent clause through legislation. Perceiving that—as this Court recognized in *Graham*, 383 U.S. at 5—the patent power is *limited* and does not extend to *every* new and useful invention or discovery, the first Congress, which contained a significant complement of constitutional framers, enacted into the first Patent Act of 1790 a requirement that patents might be conferred only upon inventions that were "sufficiently useful and important" *in addition* to being new and useful.[10] This statutory criterion was implemented by a three-member board on which Thomas Jefferson sat, so as to weed out, as *insufficiently* useful and important to "promote progress in science and useful arts" and hence *per se* unpatentable, various categories of subject matter. were aggregations of old and well-known elements wherein each old element performed its customary known function in a known way, of which Jefferson himself said:

> ". . . If we have a right to use three things separately, I see nothing in reason, or in patent law, which forbids our using them all together. A man

a patent is stronger in the case of patents for inventions "*which directly affect the citizen*" than patents for land, which have only an indirect effect.

The same point, that the citizenry is directly affected by invalid patents because they interfere with the inalienable right of every citizen to pursue an ordinary calling unhampered by baseless and unjustified monopolies—of which nonmeritorious patents are obviously an example—was made in the dissenting opinion of Justice Bradley in *Butchers Union Co.* v. *Crescent City Co.*, 111 U.S. 746, 762 (1884). That dissent was adopted by the Court in *Allgeyer* v. *Louisiana*, 165 U.S. 578, 589-590 (1897), which in turn was relied upon in *Greene* v. *McElroy*, 360 U.S. 474, 492 (1959).

It follows that the indiscriminate and unchecked proliferation of baseless patents raises serious due process problems vis-a-vis the citizen.

[10] Act of April 11, 1790, ch. 7, § 1, 1 Stat. 109.

> has a right to use a saw, an axe, a plane separately; may he not combine their uses on the same piece of wood?" [11]

Attempting to make the determination as to what did and did not "promote progress" in the constitutional sense a judicial rather than an executive function, Congress in the 1793 Act [12] turned to a registration system whereby patents issued automatically and all questions of patentability and validity were consigned to the courts. When the 1793 Act proved unworkable and Congress decided to create a Patent Office with the duty to screen out unworthy "inventions" *before* patenting, it reinstated the "sufficiently useful and important" criterion first set forth in the 1790 Act and laid the initial responsibility for implementing it in the lap of the Patent Office.[13] The criterion remained in the patent statutes until the 1952 Act when it was deleted "as unnecessary, the requirements for patentability being stated in sections 101, 102 and 103." See the Revisor's Note to 35 U.S.C. § 131.

In *Reckendorfer* v. *Faber*, 92 U.S. 347 (1875), a case involving an unpatentable aggregation of old elements, this Court emphasized that the *Hotchkiss* test is a definition of the extent of utility or importance that an alleged invention must possess in order to merit a patent—and rejected the patentee's argument that the Patent Office determination on that point is conclusive in later litigation, holding

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[11] Letter to Oliver Evans, from Letters of Thomas Jefferson, Washington Ed., Vol. VI, (1814), p. 298. Jefferson's question is equally apt in this case. If sloped floors with "downhill drains", cow stalls, feeding and milking areas and weir dams or sluiceways are each old, what is to prevent their amalgamation in any combination or permutation? Indeed, it seems almost axiomatic that no more than ordinary skill *could* be entailed in juxtaposing these old elements in *any* desired manner.

[12] Act of Feb. 21, 1793, 1 Stat. 321.

[13] Act of July 4, 1836, ch. 357, § 7, 5 Stat. 117.

> ". . . The argument . . . that proof that there is *no invention or discovery at all*, or that *the invention has no importance*, cannot be made [by the defendant in an infringement action], is quite unsound. Proof that there is no invention or discovery strikes at the root of the whole claim. The patent is based on an affirmative fact, of which this is the direct negative. *It needed no statute to aid or justify this defense.* It is provable when it exists under any general denial, like the fact of not guilty . . . in cases where guilt . . . is first to be established."

In *Reckendorfer* his Court also emphasized that old elements must *combine* to produce a new and *un*predictable result in order for the combination to support a patent, saying

> "The combination, to be patentable, *must produce a different force or effect or result in the combined forces or processes*, from that given by their separate parts. There must be a new result produced by their union." [87 U.S. at 357] [14]

This test in substance had been implemented even earlier in *Hailes* v. *Van Wormer*, 87 U.S. (20 Wall.) 353 (1873); it was reiterated by this Court in a plurality of subsequent cases, including *Dunbar* v. *Meyers*, 94 U.S. 187, 195 (1876); *Pickering* v. *McCullough*, 104 U.S. 310, 318 (1881); *Vinton* v. *Hamilton*, 104 U.S. 485, 492 (1882); *Beecher Mfg. Co.* v. *Atwater Mfg. Co.*, 114 U.S. 523, 524 (1885); *Thatcher Heating Co.* v. *Burtis*, 121 U.S. 286, 294 (1887); *Hendy* v. *Golden State and Miners' Irons Works*, 127 U.S. 370, 375 (1881); *Burt* v. *Evory*, 133 U.S. 349, 358 (1890); *Union Edge Setter Co.* v. *Keith*, 139 U.S. 530, 538, 539 (1891); *Adams* v. *Bellaire Stamping Co.*, 141 U.S. 539, 542 (1891); *Brinkerhoff* v.

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[14] Similarly, the trial court in *this* case found that "all of the elements" of the patent in suit "are old in the dairy business" and "the combination of time [sic them]" is "neither new nor meeting the test of non-obviousness" (Pet. 10a).

Aloe, 146 U.S. 515, 516 (1892); *Richards* v. *Chase Elevator Co.*, 58 U.S. 299, 302 (1895); rehearing, 159 U.S. 477, 487 (1895); *Office Specialty Mfg. Co.* v. *Fenton Metallic Mfg. Co.*, 174 U.S. 492, 498 (1899); *Grinnell Washing Machine Co.* v. *Johnson Co.*, 247 U.S. 426, 434 (1918); *Concrete Appliances Co.* v. *Gomery*, 269 U.S. 177, 185 (1925); *Powers-Kennedy Contracting Corp.* v. *Concrete Mixing and Conveying Co.*, 282 U.S. 175, 186 (1930); *Carbice Corp. of America* v. *American Patents Dev. Corp.*, 283 U.S. 420, 421 (1931); *Lincoln Eng'r Co.* v. *Stewart-Warner Corp.*, 303 U.S. 545, 549-550 (1938) and *Toledo Pressed Steel Co.* v. *Standard Parts, Inc.*, 307 U.S. 350, 356 (1939), *Cuno, supra*, *Marconi Wireless Telegraph Co.* v. *United States*, 320 U.S. 1, 32 (1943) and *Dow Chemical Co.* v. *Halliburton*, 324 U.S. 320, 330 (1945).

In similar vein to *Reckendorfer*, this Court in *Cuno, supra*, reviewed what was "well known to the art when Mead made his device", a "cordless" cigarette lighter and held:

> "To incorporate such a thermostatic control in a so-called 'wireless' or 'cordless' lighter was not to make an 'invention' or 'discovery' within the meaning of the patent laws. As we have shown, both the thermostatically controlled heating unit and the lighter with removable plug bearing the heating unit were disclosed by the prior art. More must be done than to utilize the skill of the art in bringing old tools into new combinations. [Citing cases] . . . [314 U.S. at 89]
>
> • • • •
>
> "Certainly the use of a thermostat to break a circuit in a 'wireless' cigar lighter is analogous or the same in character as the use of such a device in electric heaters, toasters, or irons, whatever may be the difference in detail of design. . . ." [314 U.S. at 91]

In *A & P*, Mr. Justice Jackson, speaking for the Court, said:

> ". . . The conjunction or concert of known elements must contribute something; only when the whole in some way exceeds the sum of its parts is the accumulation of old devices patentable. . . . This case is wanting in any unusual or surprising consequences from the unification of the elements here concerned, and there is nothing to indicate that the lower courts scrutinized the claims in the light of this rather severe test.
>
> "Neither court below has made any finding that old elements which made up this device perform any additional or different function in the combination than they perform out of it. This counter does what a store counter always has done—it supports merchandise at a convenient height while the customer makes his purchases and the merchant his sales. The three-sided rack will draw or push goods put within it from one place to another—just what any such rack would do on any smooth surface—and the guide rails keep it from falling or sliding off from the counter, as guide rails have ever done. Two and two have been added together, and still they make only four." [340 U.S. at 152][15]

Anderson's Black Rock, supra, reaffirms *A & P* and *Graham* to emphasize that the *Constitution*, on which Section 103 rests, disqualifies from patentability any alleged "combination" invention which falls short of producing "an effect greater than the sum of the several effects taken separately"—*i.e.*, a "synergistic result". The logic is self-evident. Merely additive "combinations" or as they are descriptively called, "aggregations" *are* pre-

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[15] Of course, the "crucial" sheet of water in the Gribble and Bennett dairy barn acts just the way such sheets *always* have when weir dams or sluiceways are opened, i.e., to wash away all non-stationary items in its path. *No one*, including the Fifth Circuit, alleges that the sloping barn floors, downhill drains, cow-stalls or feeding and milking areas perform any additional or different function in the patented barn than they did in pre-existing dairy barns.

dictable and producible with ordinary skill—hence constitutionally unpatentable because they fail to "promote progress".

Anderson's Black Rock also reaffirms *Lincoln Engineering Co., supra*, which, within the fabric of the established law on the treatment of "combination inventions, emphasized that an already known combination of elements, *even* if patentable when new, cannot be *re*-patented whenever one of its elements is improved. The underlying rationale that there is no "new or different function" as a result of the substitution, but only an improved result traceable to the improved element, is squarely in accord with 35 U.S.C. 103 since the substitution is *per se* a matter of ordinary skill and patentable invention may be found, if at all, only in the improved element. *Lincoln*, in its turn, reaffirmed and followed *Bassick Mfg. Co.* v. *R. M. Hollingshead Co.*, 298 U.S. 415 (1936) to hold specifically that ". . . the improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination. . . ." 303 U.S. at 549.

The Fifth Circuit decision that the Gribble and Bennett patent is valid wholly ignores the established law on "combination" patents to hold that an aggregation of admittedly old elements, each performing a known and conventional function in a conventional way, is unobvious under 35 U.S.C. 103, and hence a patentable invention. The particular aggregation in issue is also an "old combination" in the sense that dairy barns, having cowstalls, feeding and milking areas, inclined floors equipped with "downhill" drains and means for flushing cow offal off the floor were admittedly known previously, so that the sole alleged improvement" resides in the particular flushing means employed.[16] Either way, one is

[16] The trial court so held and the Fifth Circuit agreed. The latter characterized as "the crucial element" of the patent "the concept of a controlled sheet of water" to flush the barn floor. See pp. 4-6, *supra*.

constrained to ask wherein "progress" in science and useful arts has been promoted—and to conclude, based on this Court's undeviating pronouncements that the alleged invention is constitutionally as well as statutorily unpatentable.

II. Some Reasons for the Dereliction of the Patent Office in this Case

A major contributing factor, if not the major one, to the Patent Office grant of such flimsy patents as No. 3,223,070, in derogation of this Court's consistent contrary precedent is the deliberate and unreasoned repudiation by the Court of Customs and Patent Appeals ("CCPA")—one of two alternative tribunals charged by statute[17] with reviewing Patent Office refusals—of all pre-1952 decisions of this Court as the foundation for interpreting 35 U.S.C. 103. Thus, over a year before the December 14, 1965 issuance of patent 3,223,070, the CCPA gratuitously abolished the "aggregation doctrine" as a basis for refusing patent protection. The Patent Office, which considers CCPA decisions binding on it, followed its frequent practice of docile obedience.[18]

[17] 35 U.S.C. 141. The review in the CCPA is strictly appellate on the record created in the Patent Office. The alternative review is by civil action against the Commissioner of Patents under 35 U.S.C. 145 in the United States District Court for the District of Columbia and on appeal in the United States Court of Appeals for the District of Columbia Circuit.

[18] For example, in *Application of Tarczy-Hornoch*, 397 F.2d 856 (CCPA 1968), the Court of Customs and Patent Appeals in a three to two decision repudiated the doctrine, established in an unbroken string of decisions of this Court, commencing with *Corning* v. *Burden*, 56 U.S. 252 (1853) that the inherent function of a machine is a *per se* unpatentable process. The reason for the repudiation was that the doctrine is "the product of an essentially illogical distinction unwarranted by, and at odds with, the basic purpose

The excuse for CCPA repudiation of "aggregation" as a ground for refusing patents was the professed inability of the Court to understand the word as a legal term of art. The CCPA, in an opinion authored by Judge Rich, also said:

> "On January 1, 1953, all of this mental anguish [purportedly requisite to an understanding of the term 'aggregation' as a patent law concept] ceased to be necessary. The test of the presence or absence

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of the patent system and productive of a range of undesirable results from the harshly inequitable to the silly. . .". (397 F.2d at 867). No supporting precedent was cited.

As a result, and notwithstanding a dissenting judge's comment that "the majority's newly charted course is contrary to the basic constitutional objective of promoting the progress of the useful arts. . . ." (397 F.2d at 870), the Patent Office modified its Manual of Patent Examining Procedure on February 10, 1969, directing all of its approximately one thousand examiners to abjure that ground of rejecting applications. The notice said:

> "In view of the decisions of the Court of Customs and Patent Appeals in In re Tarczy-Hornoch appearing at 158 USPQ 141, process and method claims will no longer be subject to a rejection by Patent Office Examiners solely on the ground that they define the inherent function of a disclosed machine or apparatus. Accordingly, the subject matter of MPEP 706.03(r) is inapplicable and hereby cancelled."

Judge Giles S. Rich, the writer of the opinion, has recently publicly characterized this overruled doctrine as "intellectual rubbish", observing that "There is still a lot of antique nonsense floating around awaiting cases to bring it up". Rich *"Change"*, 2 APLA Q.J. 214, 222 (1974).

Judge Rich, who was a participant in the preliminary drafting of the 1952 Patent Act, has consistently professed a unique knowledge of its true meaning and intent and has viewed that act as having rendered much, if not all of the antecedent precedent obsolete and ineffective. See Rich, *Congressional Intent—Or, Who Wrote the Patent Act of 1952*, Patent Procurement and Exploitation (1963), pp. 61-78; see also Rich, *The Principles of Patentability*, 28 Geo. Wash. L. Rev. 393, (1960); Rich, *The Vague Concept of 'Invention' as Replaced by §103 of the 1952 Patent Act*, 8 Idea 136 (1964); and Rich, *Laying the Ghost of the 'Invention' Requirement*. 1 APLA Q.J. 26 (1972).

> of 'invention', and along with it the subordinate question of whether a device or process was or was not an 'aggregation,' or a 'combination,' or an 'unpatentable combination' for 'want of invention,' was replaced by the *statutory test* of 35 U.S.C. § 103." *Application of Gustafson*, 331 F.2d 905, 909 (emphasis by the court).

Judge Rich has since listed the abolition of the aggregation doctrine "as one of the changes [in the patent law] I have seen—and in some cases have helped along—during the past 18 years that I have been on the Court of Customs and Patent Appeals", and with specific reference thereto, has observed:

> "Old-timers will remember and the old texts explain that 'combinations' are patentable and 'aggregations' are not, and rejections were often made on the ground that the invention is a 'mere aggregation.' That was, of course, a lot of silly nonsense and a mere labeling after the decision on patentability had been subjectively made for some other reason. The CCPA therefore did away with it in 1964 in *In re Gustafson*, pointing out that with the passage of § 103 the mental anguish of determining what was a combination and what an aggregation ceased to be necessary; that what one really has to determine is obviousness of the claimed subject matter." [19]

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[19] Both quotations are from *"Change" op. cit. supra*, note 18, at pp. 215 and 220 respectively. Judge Rich is particularly critical of "the people who currently put out publicity for proposed innovations in the [patent] system prefaced by the comment that nothing much has changed since 1836" *id.* at 215—an apparent reaction to the remarks of Senator Philip Hart at the opening of the September 1973 hearings before the Subcommittee on Patents, Trademarks and Copyrights Committee of the Judiciary in September 1973 that

> "No system designed in 1836 can remain viable under the economic and technological conditions of 1973, and that is why the patent system is under attack. Unless it is reformed to create procedures, safeguards and mechanisms to weed out the

Based on *Gustafson*, the Patent Office Board of Appeals went one step further to hold, in square repudiation of *A & P* and its long string of antecedents that "it is not essential to a patentable combination that there be inter-dependency between the elements of the claimed device or that all the elements operate concurrently toward the desired result". *Ex parte Nolden*, 149 USPQ 378, 380 (P.O. Bd. App. 1965)

Though *Anderson's Black-Rock* has since that time demonstrated that this Court views the aggregation doctrine—and its corollary, the old combination doctrine—as very much alive, the Patent Office and the CCPA remain committed to *Gustafson*.

Indeed, in the very year that *Anderson's Black-Rock* was decided, the CCPA in *Application of Bernhart*, 417 F.2d 1395 (CCPA 1969), abolished the "aggregation" doctrine's corollary, "old combination", as a basis for refusing patent protection. *Bernhart* acknowledges that:

> "The rationale of an old combination rejection is stated in MPEP[20] 706.03(j) as follows: 'The fact

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bad patents before issuance—whether fraudulent or not—and to insure the expeditious and impartial issuance of patents that meet the constitutional and statutory standards, the patent system will die of atrophy". *Patent Law Revision* (1973) at p. 1

Interestingly, Judge Rich appears to have welcomed and "helped along" those alleged changes that have resulted in granting more patents by overruling decisions of this Court. Senator Hart's view of the lack of essential changes since 1836 has recently been echoed by Senator Scott. See Scott and Unkovic, *Patent Law Reform: A Legislative Perspective of an Extended Gestation*, 16 Wm. & Mary L.R. 937 (1975), which states that:

> "Since passage of the original Patent Act of 1836, the essential structure of the United States patent system has remained unaltered. Although Congress made some changes in 1952 when it enacted the Patent Code as Title 35 of the United States Code, it did not attempt comprehensive reform but only a codification of patent law."

[20] "MPEP" stand for Manual of Patent Examining Procedure—the "Bible" of the Patent Office examining corps.

> that an applicant has improved one element of a combination which may be *per se* patentable does not entitle him to a claim to the improved elements where the elements perform no new function in the combination.' This statement has the support of many cases. See, e.g., Lincoln Engineering Co. v. Stewart-Warner Corp., 303 U.S. 545, 58 S.Ct. 662, 82 L.Ed. 1008 (1938). . . ." (417 F.2d at 1402)

It nevertheless asserts,

> "Our primary concern, however, is not with the soundness of the underlying policy, if any, for old combination rejections; it is with whether such rejections are proper under the present statute. . . ."

and proceeds to conclude they are not *without* citation of a single supporting authority. (417 F.2d at 1403).

As recently as July 1974 in *Ex parte Barber*, 187 U.S. P.Q. 244 the Patent Office Board of Appeals, one member dissenting, reversed a Patent Examiner's rejection of claims drawn to an internal combustion engine on the ground the engine was an old combination, the sole improved element of which had already been patented. The majority relied on *Bernhart* as authority and did not even acknowledge this Court's contrary *Anderson's Black-Rock* decision. The dissenter likewise ignored *Anderson's Black-Rock*, but nonetheless felt *Bernhart* was not "the last word on this subject" because subsequent decisions in the federal circuits cite *Lincoln Engineering*—specifically reaffirmed in *Anderson's Black-Rock*—and "[i]n no instance has a court questioned . . . [its] viability . . ." (187 U.S.P.Q. at 247)

It is small wonder in the face of such determined adherence to heresy that this Court in *Graham* perceived "a notorious difference between the standards applied by the Patent Office and by the Courts. . . ." 383 U.S. at 18—and even less wonder that the gap is growing wider as time passes.

The CCPA influence upon the Patent Office is undoubtedly a factor in the statistics demonstrating that about 25% of patents actually litigated are held invalid based on the very prior art references that the Patent Office considered.[21]

In addition, there are many factors indigenous to the present management of the Patent Office that contribute to the poor quality of patent examination work presently reflected in the low incidence of validity among issued patents. These factors include (i) the existence of a quota system requiring that each examiner complete a given number of units of work ("actions" and "allowances") within a certain unit of time regardless of the complexity of the technology involved, (ii) the offer of cash bonuses ("bounties") to examiners that exceed their assigned quotas, (iii) recognized inadequacies in the content and completeness of the Patent Office search files, (iv) incomplete written records of patent application prosecution which make it impossible for the public, including the courts, to learn why a particular patent was

[21] Dr. Alan C. Nixon testifying before the Senate Subcommittee on Patents, Trademarks and Copyrights in 1973 in his capacity at that time of President of the American Chemical Society referred to "the finding by Professor Irving Kayton of the George Washington University National Law Center that, when the courts consider no prior art other than that known to the Patent Office during examination of the patent application, 75 percent of litigated patents are upheld." "Patent Law Revision", 93d Cong., 1st Sess. (1973) at 349. Certainly if a proper standard of patentable invention were being implemented, patent examiners judgments *should* show greater than 75% concurrence with those of the courts on *the same* facts.

These statistics hence provide a meaningful perspective against which to assess the statutory presumption of patent validity (35 U.S.C. 282) that is one of the nove' features of the 1952 Patent Act. Manifestly, there can be no presumption of validity—or of administrative correctness—when the agency is utilizing incorrect legal standards that are in the teeth of controlling interpretations by this Court.

granted, (v) the present relatively low ratio of examiners with legal training, and the like.[22]

At the conclusion of the 1973 hearings on patent law revision held by the subcommittee on Patents, Trademarks and Copyrights of the Senate's Committee on the Judiciary and after hearing from representatives of the Department of Commerce, the Department of Justice, various patent law associations, various industries, a sprinkling of former commissioners of patents and other interested parties, Senator Phillip Hart summed up certain Patent Office deficiencies, as follows:

> "A fair reading of the hearing record, I believe, shows remarkable agreement as to the patent system's main vices. They interact and result in a game of blind man's bluff on a motorcycle, the objective seemingly being to find the edge of the cliff as quickly as possible. These vices include:
>
> 1. The ex parte manner in which patents issue.
>
> 2. The failure to disclose material information by persons dealing with the Patent Office.
>
> 3. The lack of modern search facilities and compulsory process to enable the Patent Office to obtain or compel the furnishing of such material information.
>
> 4. A tendency by Patent Office management to emphasize production goals: quantity rather than quality.
>
> 5. A lack of interest and understanding by the Patent Office of the public impact of spurious patents.

[22] For a complete discussion of these factors, see the testimony of Milton Weissman, Editor of the Journal of the Patent Office Society and a patent examiner for some 29 years published in "Patent Law Revision" *op. cit. supra* at 445-567.

6. Submergence of Patent Office needs to the broader objectives of the Department of Commerce." [23]

III. Unsuccessful Efforts to Change 35 U.S.C. 103 Legislatively

This Court's decision in *Graham* dashed the hopes of many proponents of a denigrated standard of patentable invention that 35 U.S.C. 103 itself might be a vehicle for overruling or at least relaxing the essential constitutional standard of patentable invention first implemented by Jefferson and his cohorts on the 1790 Patent Board and first articulated by this Court in *Hotchkiss*.[24]

Since at that time, as the *Graham* opinion itself notes, 383 U.S. at 19, n. 10, a presidentially appointed Commission on the Patent System was engaged in studying possible legislative reform, the disgruntled proponents of a lowered standard for patentable invention turned to lobbying Congress for changes in 35 U.S.C. 103.

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[23] "Patent Law Revision", 93d Cong., 1st Sess. (1973) at 568.

[24] As noted *supra*, p. 9, the Fifth Circuit as late as 1955 was not following *Hotchkiss*, but rather was utilizing "its rule that when a combination produces an 'old result in a cheaper and otherwise more advantageous way' that is patentable. Jeoffroy Mfg., Inc. v. Graham, 219 F.2d 511. . ." *Graham, supra*, 383 U.S. at 4.

The Fifth Circuit's tenacity in clinging to this rejection test of patentable invention is perhaps best appreciated in context of the fact that the "better and cheaper" rationale was rejected by this Court, in *Cuno, supra*, 90 years after *Hotchkiss*. In *Cuno*, moreover, the patentee made an impassioned argument that the *Hotchkiss* rationale was wrong and should be overruled.

In *Graham*, the Court was faced with five amicus briefs from proponents of a lowered standard of patentable invention filed on behalf of the American Bar Association, the Illinois State Bar Association, the New York Patent Law Association, the Patent, Trademark and Copyright Section of the State Bar of Texas and E. Ernest Goldstein, then a professor of law at the University of Texas. Rejecting the blandishments of these amici, this Court nonetheless adhered to the position it had *always* consistently taken in the past.

The Scott and Unkovic article, *supra*, note 19, traces the history "during the past 23 years" of attempts "to legislate a comprehensive patent reform bill" (p. 937), including those which have taken place since this Court's *Graham* decision.

Of particular interest insofar as efforts to denigrate the constitutional invention standard now codified in 35 U.S.C. 103 are concerned is the proposal originally advanced by the Los Angeles Patent Law Association, that the statute be modified by adding the following provisions:

> "Patentability shall not be negatived . . . because the invention has simplicity or is the last step in an evolutionary development, nor because it is not revolutionary, basic, scientific, or technical in character. Claims for a new combination or assemblage of known mechanical or other elements shall be subjected to the same standard of patentability as is applied to claims for other types of subject matter."

See Gausewitz, R. L., *Brief in Support of Proposed Amendments to Section 103, Title 35 U.S. Code*, 51 J. Pat. Off. Soc'y. 290 (1969). The proposal was an important feature of S. 643, 92d Cong. 1st Sess. (1971), introduced by Senator McClellan and supported by the Department of Commerce but opposed by the Department of Justice. After hearings, the Senate Subcommittee reported an amended version of S. 643 to the full Committee on the Judiciary of the United States Senate. In that amended version, as noted by Scott and Unkovic *supra*, the subcommittee "rejected the changes S. 643 would have made in existing law concerning . . . the 'obviousness' standard of invention. . . ." (p. 941). The modified bill was never reported out of committee.

As Scott and Unkovic recount, however, the effort involved in arriving at this modified bill sparked Senators McClellan and Scott into requesting President Nixon in

1972 to "direct the appropriate departments and agencies of the Executive Branch to undertake renewed efforts to formulate an administration position on patent law revision" (p. 942).

The result was a comprehensive administration patent reform bill, S. 2504, 93d Cong., 2d Sess. introduced jointly by Senators McClellan and Scott in the United States Senate on October 1, 1973. This Administration bill continued the present 35 U.S.C. 103 unchanged. Subsequent efforts to revive the Los Angeles amendment were made in S. 2930, 93d Cong. 2d Sess. (1974) and S. 4259, 93d Cong. 2d Sess. (1974). All of the various bills introduced in the Ninety-Third Congress were allowed to die without being reported to the full Committee on the Judiciary of the Senate.

Further efforts toward patent reform legislation were, however, initiated promptly upon the convening of the Ninety-Fourth Congress on January 14, 1975. Senator McClellan that day introduced a bill designated S. 23, 94th Cong. 1st Sess. (1975) which, as Scott and Unkovic put it, "did not change the much-litigated and well-understood Section 103 which sets out the standard of invention necessary for the issuance of a patent" (p. 953). S. 23 was utilized by the Senate Subcommittee as the basis for a markup session that resulted in essential agreement among four of the five members of the subcommittee, to wit: Senators McClellan, Scott, Hart and Burdick. It is understood that the marked up version of the bill, including Section 103 in a form identical to the current statutory section, will shortly be reported to the full Committee on the Judiciary of the Senate, with the blessing of the present administration.

The Scott and Unkovic article particularly stresses the recognized need under the patent clause of the Constitution for Congress to adhere to a statutory system that requires a purported "invention to be not only new and

useful but also a truly inventive step beyond that which was known previously. . . ." (p. 956).

These legislative efforts are of interest to this Court in this case because the language that the Los Angeles Patent Bar Association proposed to add to 35 U.S.C. 103, *supra*, p. 25, is *per se* a recognition that current law *does not authorize* the grant of patents without regard to the degree of technical advance involved, nor does it authorize any relaxed approach toward the patentability of combinations or assemblages of old and well known elements.

To put it shortly, the Court and Congress are in full agreement as to the constitutional requisites of the standard for patentable invention. The time has come to bring the Fifth Circuit, a court that has far too long been on an aberrant course, the CCPA, another aberrant court, and the Patent Office into strict concurrence.

IV. The Important Public Policy Which Demands That Only Valid Patent Monopolies Be Enforced

The Gribble and Bennett patent can and should be disposed of as invalid because not in accord with § 103's minimum standard for patentable invention as explicated in *Graham*, *Anderson's-Black Rock* and antecedent decisions of this Court discussed in Section I hereof.

The petition also raises the propriety of the Fifth Circuit's reversal (Pet. 1a-6a) of the district court's grant of a new trial under Rule 60(b)(2) for consideration of alleged newly discovered evidence as to the existence at Mission Dairy in Carmel, California, more than one year before the filing of the Gribble and Bennett patent application, of an identical dairy barn assemblage to that covered by the patent claims. The Fifth Circuit appears to have conceded that the trial court correctly found that this evidence is material, non-cumulative and would, if

considered, probably result in a holding that patent 3,223,070 is invalid. Its reversal was on the ground that:

> ". . . the exercise of a reasonable amount of diligence would have armed Sakraida with the same information he belatedly seeks to put before the court.
>
> "That spirit of finality which is implicit in all judgments, commands that courts be cautious in exercising the discretion vested in them to reopen proceedings for a new trial based on newly discovered evidence. While the sound discretion of a district judge in granting such a motion is not to be reversed except for clear abuse of discretion, Lloyd v. Gill, 406 F.2d 585 (5th Cir. 1969), that exercise is not free from review. In the case at bar, the evidence produced to show due diligence by Sakraida, taken in a light most favorable to the finding by the court below that the judgment following a completed trial should be set aside, is insufficient. The 'new' facts were easily available prior to the trial, and the defendant had reliable information that they were so available. His half-hearted effort to uncover them is legally not enough. Sakraida did not exercise due diligence in preparation of his prior art defense. The grant of a new trial accordingly must be reversed. . . ." (Pet. 5a-6a)

We do not dispute the soundness of the ruling in an ordinary suit between private interests in which the outcome would have no consequential direct effect upon other members of the public. We *do* suggest that the constitutional purpose underlying the patent system, as interpreted in apposite decisions of this Court, so thoroughly imbues the validation and enforcement of a patent monopoly with *primary public* consequences that the trial judge was required to give weight to that factor in the proper exercise of discretion under Rule 60(b), as he did—and that the Fifth Circuit accordingly lacked prerogative to disturb his ruling.

As succinctly stated in *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510-11 (1917):

> "Since Pennock v. Dialogue, 2 Pet. 1, 7 L. ed. 327, was decided in 1829, *this court has consistently held that the primary purpose of our patent laws is not the creation of private fortunes for the owners of patents, but is 'to promote the progress of science and the useful arts'* (Constitution, art. 1 § 8)—an object and purpose authoritatively expressed by Mr. Justice Story, in that decision, saying:
>
> > 'While one great object [of our patent laws] was, by holding out a reasonable reward to inventors and giving them an exclusive right to their inventions for a limited period, to stimulate the efforts of genius, the main object was "to promote the progress of science and useful arts."'
>
> "Thirty years later this court, returning to the subject, in Kendall v. Winsor, 21 How. 322, 16 L. ed. 165, again pointedly and significantly says:
>
> > 'It is undeniably true, that the limited and temporary monopoly granted to inventors was never designed for their exclusive profit or advantage; the benefit to the public or community at large was another and doubtless the primary object in granting and securing that monopoly.'
>
> "This court has never modified this statement of the relative importance of the public and private interests involved in every grant of a patent, even while declaring that, in the construction of patents and the patent laws, inventors shall be fairly, even liberally, treated. Grant v. Raymond, 6 Pet. 218, 241, 8 L. ed. 376, 384; Winans v. Denmead, 15 How. 330, 14 L. ed. 717; Walker, Patents, § 185." [25]

[25] The primacy of the *public* interest in the patent system has been reiterated frequently over the years—most recently in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 530-531 (1972).

In strikingly similar language, this Court in *United States* v. *Masonite Corp.*, 316 U.S. 275, 278 (1942) observed:

> "As stated by Mr. Justice Story in Pennock v. Dialogue, 2 Pet. (US) 1, 19, 7 L. ed 327, 333, the promotion of the progress of science and the useful arts is the 'main object;' reward of inventors is secondary and merely a means to that end. Or in the words of Mr. Justice Daniel in Kendal v. Winsor, 21 How (US) 322, 329, 16 L. ed. 164, 168, 'Whilst the remuneration of genius and useful ingenuity is a duty incumbent upon the public, the rights and welfare of the community must be fairly dealt with and effectually guarded. Considerations of individual emolument can never be permitted to operate to the injury of these.'"

These guiding principles led the Court in *Mercoid Corp.* v. *Mid-Continent Investment Co.*, 320 U.S. 661, 670 (1944) to refuse to apply the doctrine of *res judicata* in a manner that would preclude infringement of a misused patent. The Court said:

> "Should such a decree be entered, the Court would be placing its imprimatur on a scheme which involves a misuse of the patent privilege and a violation of the anti-trust laws. It would aid in the consummation of a conspiracy to expand a patent beyond its legitimate scope. But patentees and licensees cannot secure aid from the court to bring such an event to pass, 'unless it is in accordance with policy to grant that help.' Beasley v. Texas & P. R. Co. 191 US 492, 497, 48 L ed 274, 275, 24 S Ct 164. *And the determination of that policy is not at the mercy of the parties* (id. 191 US p. 498, 48 L ed 276, 24 S Ct 164) *nor dependent on the usual rules governing the settlement of private litigation.* 'Courts of equity may, and frequently do, go much farther both to give and withhold relief in furtherance of the public interest than they

> are accustomed to go when only private interests are involved.' Virginian R. Co. v. System Federation, R. E. D. 300 US 515, 552, 81 L ed 789, 802, 57 S Ct 592. 'Where an important public interest would be prejudiced,' the reasons for denying injunctive relief 'may be compelling.' Harrisonville v. W. S. Dickey Clay Mfg. Co., 289 US 334, 338, 77 L ed 1208, 1211, 53 S Ct 602. And see United States v. Morgan, 307 US 183, 194, 83 L ed 1211, 1218, 59 S Ct 795. That is the principle which has led this Court in the past to withhold aid from a patentee in suits for either direct or indirect infringement where the patent was being misused. Morton Salt Co. v. G. S. Suppiger Co. supra (314 US p. 492, 86 L ed 365, 62 S Ct 402). That principle is controlling here. The parties cannot foreclose the courts from the exercise of that discretion by the failure to interpose the same defense in an earlier litigation. Cf. Sola Electric Co. v. Jefferson Electric Co. 317 US 173, 87 L ed 165, 63 S Ct 172."[11]

The same principles require that the availability of Rule 60(b) relief on the issue of patent validity, which has far-reaching and direct public consequences transcending the private inteersts of the litigants, not be "at the mercy" of the parties. See *Mahn* v. *Harwood*, *supra*, note 9. *That* principle, moreover, has led this Court to abjure licensee estoppel to challenge patent validity in *Lear* v. *Adkins*, 395 U.S. 653 (1969) and to invoke collateral estoppel against relitigation of patents once held invalid in a fairly tried case in *Blonder-Tongue Laboratories, Inc.* v. *University of Ill. Foundation*, 402 U.S. 313 (1971). It is manifestly available to prevent hypertechnical or overzealous application of Rule 60(b) which would have the effect of rendering a naked monopoly lacking in statutory and constitutional justification, such as respondent's "patent" monopoly No. 3,223,070 on dairy barn assemblages, enforceable against the public.

CONCLUSION

The Fifth Circuit decisions should be reversed and patent 3,223,070 held invalid.

Respectfully submitted,

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